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The humble electrician
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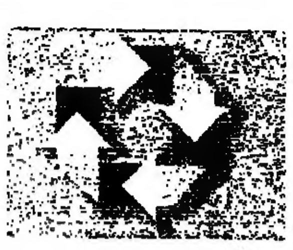

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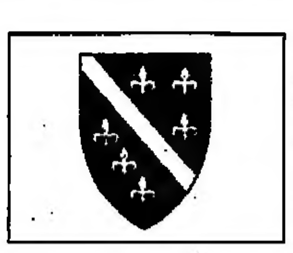

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World Business Newspaper

WEDNESDAY APRIL 3 1996

Bertelsmann and CLT aim to create media partnership

One of the world's largest media groups, Bertelsmann, is to form a 50:50 partnership with Luxembourg-based Compagnie Luxembourgeoise de Télédiffusion, to create Europe's biggest broadcaster. Bertelsmann's chief executive Mark Wössner described the deal as a "historic milestone". The partnership, which will have sales of more than DM5bn ($3.3bn), needs approval from the cartel authorities. Thorn in talks with Bertelsmann, Page 22, Lex, Page 16

Advanced Micro Devices, the US microchip maker, added to the steady drip of sombre profits warnings emanating from US companies in recent weeks. The warnings have set the stage for a mixed first-quarter results season from US companies in the coming weeks. Page 17

Major to push for single currency poll: UK prime minister John Major will urge the cabinet to make a commitment on the controversial issue of a referendum on a single currency. Mr Major hopes to announce the referendum as a general election manifesto commitment. Page 16

NBC plans TV channel for computer users: US broadcasting group NBC plans to launch a number of television channels aimed at computer users in European markets. It is likely that US software company Microsoft will join the venture. Page 16

BMW, the German motor group, warned that a new tax on company cars in Germany has hit sales of its top models by around 20 per cent. Page 17; Lex, Page 16; Income tax cut urged, Page 2

Mediator's hopes over Bosnia: The international mediator in Bosnia, Carl Bildt, said he hoped that western forces would not be needed in the region beyond 1996, but stopped short of ruling this out. Page 2; Personal view, Page 14

Juppé backs cut in working week: Mr Alain Juppé, France's centre-right prime minister, gave a warm reception to proposals from Michel Rocard, one of his Socialist predecessors, for a cut in working hours from 39 a week to 32 hours to create more jobs, Page 3

Forces support Yeltsin ceasefire pledge: Russian forces said they were sticking to president Boris Yeltsin's plan to end their offensive in Chechnya but that troop withdrawal could not start for several weeks. Belarus union pact, Page 3

GKN joins bid for transport order: UK defence and automotive group GKN has teamed with German engineering companies Krauss Maffei, MaK/Rheinmetall and Wegmann, to bid for the £3bn ($4.6bn) Anglo-Franco-German battlefield transport programme. Page 9

Japan rail sell-off back on course: The Japanese government appears ready to approve a long-delayed second phase of the listing of shares in the country's privatised railway network. Page 5

Former Polish leader goes back to work: Poland's former president Lech Walesa returned in style to the Gdansk shipyard to resume his old job as an electrician. He arrived in a smart grey raincoat accompanied by two bodyguards in a state-owned black Mercedes. Page 2

US leads teenage pregnancy table: The US has the highest rate of teenage pregnancies and births among the developed nations, according to a study reported by the Journal of the American Medical Association. Page 7

Dinosaur egg proves a hit: A 100-million-year-old dinosaur egg raised 50,000 schillings ($4,800) at an Easter charity auction in Vienna, Austria.

Celebrities help launch Pepsi's blue look: Tennis champion Andre Agassi, flanked by models Cindy Crawford (below left) and Claudia Schiffer, helped Pepsi launch its new corporate image in London. The US soft drinks group is spending an estimated $450m on the campaign which involves swapping its red, white and blue cans for predominantly blue ones. Page 20

Ministers to relax intervention fund rules ■ BSE solution still sought

EU agrees to buy surplus beef

By Caroline Southey in Luxembourg

European Union farm ministers yesterday agreed to buy surplus beef from farmers hit by a collapse in sales and prices because of consumer fears over "mad cow disease".

But after two days of talks, the ministers were still struggling to reach broad agreement on how to end the two-week-old crisis. Talks were focused on measures mapped out on Monday aimed at eradicating BSE, or mad cow disease, and restoring consumer confidence in beef.

A Commission official said the ministers were determined to avoid a breakdown in the talks and predicted that the suggestions tabled overnight would not be changed substantially. The proposed measures include keeping meat from UK cattle over 30 months old out of the food chain, an EU pledge to provide 70 per cent of the compensation for slaughtered animals and a commitment from the UK to present a selective slaughter plan.

"We are not leaving here or separating without agreement on the only priority, and that is getting rid of consumer doubts," said Mr Philippe Vasseur, the French agriculture minister.

But divisions remained over how much detail the agreement should contain. Some ministers remained unhappy that Britain had not yet committed itself to a selective slaughtering campaign to target herds affected by BSE.

Mr Jochen Borchert, the German agriculture minister, said that as long as Britain failed to make clear commitments to a selective slaughtering campaign, Germany would continue to oppose lifting the ban on UK beef exports.

Mr Willy Molterer, the Austrian agriculture minister, said the package of measures was "unthinkable" because it did not seriously address measures to reduce the threat of BSE, including a programme of selective slaughtering.

Although Mr Douglas Hogg, the British minister, continued to press for an early end to the worldwide ban in British beef, a Commission official said a majority of ministers wanted the ban lifted only after a decision by the Council of Ministers. "Legally this does not make a difference, but politically it does," he said.

The agriculture ministers agreed to ease the EU's rules governing the sale of beef into EU intervention stores by dispensing with the normal two-week monitoring period and raising the eligible carcass weight from 340 kgs to 380 kgs.

All EU farmers will be eligible to sell a total of 50,000 tonnes of beef from young bulls and steers into the EU's intervention system during April. Farmers will be allowed to offer the meat to the EU's intervention board under competitive tender.

"Anybody who thinks he has a problem can offer meat into intervention. Those offering the lowest prices will be bought in," a Commission official said.

Germany and Belgium voted against the measure. Germany had pressed for a fixed intervention price, arguing that the tendering process favoured British beef producers because prices had fallen so steeply in the UK.

Mr Borchert said he would demand clear guidance on what would be done with the British beef bought into intervention as a precondition for Germany's approval for an end to the worldwide export ban on British beef.

The terms of the deal under discussion would commit the EU to meeting 70 per cent of the cost of taking animals out of the food chain. The British government would have to meet the cost of destroying the animals.

Cow-fired power, Page 8

Beijing to charge 18 in $2.2bn corruption scandal

By Tony Walker in Beijing

Beijing prosecutors are set to file charges against 18 people allegedly linked to a Yn18.3bn ($2.2bn) corruption scandal involving a former vice-mayor who committed suicide last year.

The scandal is China's biggest since an anti-corruption drive in August 1993 and is proving a severe embarrassment to the Communist party. Foreign businesses involved in property development and other activities in Beijing may also be caught up in the affair.

Mr Wang Baosan, the former vice-mayor, oversaw planning procedures in the capital which is undergoing a sweeping redevelopment funded partly by overseas interests.

Mr He Fangba, chief prosecutor of the Beijing supreme court, said those to be charged were involved in 17 cases of corruption. He gave no details, but the scale of the case means it will be difficult for the authorities to sweep it under the carpet. Initially, the Beijing municipality had said Mr Wang had misappropriated $37m, a fraction of the present figure.

Mr Chen Xitong, the former party boss of the Beijing municipality, is also under investigation. He was sacked last year following the death of Mr Wang, a long-time associate.

Chinese media have not yet published the amount of money allegedly embezzled, but the figure was revealed at a weekend meeting of the Beijing legislature and reported in the Hong Kong-based Ta Kung Pao newspaper.

Mr Chen, who was a member of the ruling politburo, has not been seen since his sacking, but pressure appears to be building for his prosecution. If he is brought to court, he would become the most senior official to face criminal charges for "economic crimes".

The official Beijing Daily reported yesterday that both Mr Chen and Mr Wang were accused during meetings of hiding large sums of money, providing unauthorised loans to friends and

Continued on Page 16
Import tax cloud, Page 4

Road to monetary union will be bumpy says EMI

By Andrew Fisher and Peter Norman in Frankfurt

Progress towards monetary union would be "a bumpy road", Mr Alexandre Lamfalussy, head of the European Monetary Institute, warned yesterday. But there was a "reasonably high probability" that it could start on time in January, 1999.

"In economic matters, there are no certainties," said the president of the forerunner of the planned European central bank when asked if he believed the date could be met.

Mr Lamfalussy was speaking after the launch of the second annual report by the EMI, set up in 1994 to prepare for Emu and monitor countries' performance towards meeting the convergence criteria laid down in the Maastricht Treaty.

His hopes that Emu could start on schedule contrast with the growing view in political, banking and industrial circles that postponement might be necessary as countries grapple with economic and budget problems.

Apart from Luxembourg, no European Union member meets all the criteria, although the final assessment will be taken on the basis of 1997 economic data in two years' time.

In the report, Mr Lamfalussy cited progress on a common monetary policy, payments systems and arrangements for switching to the single currency. But he repeated the EMI's view that countries still needed to do more, especially in curbing fiscal policies, to meet the criteria.

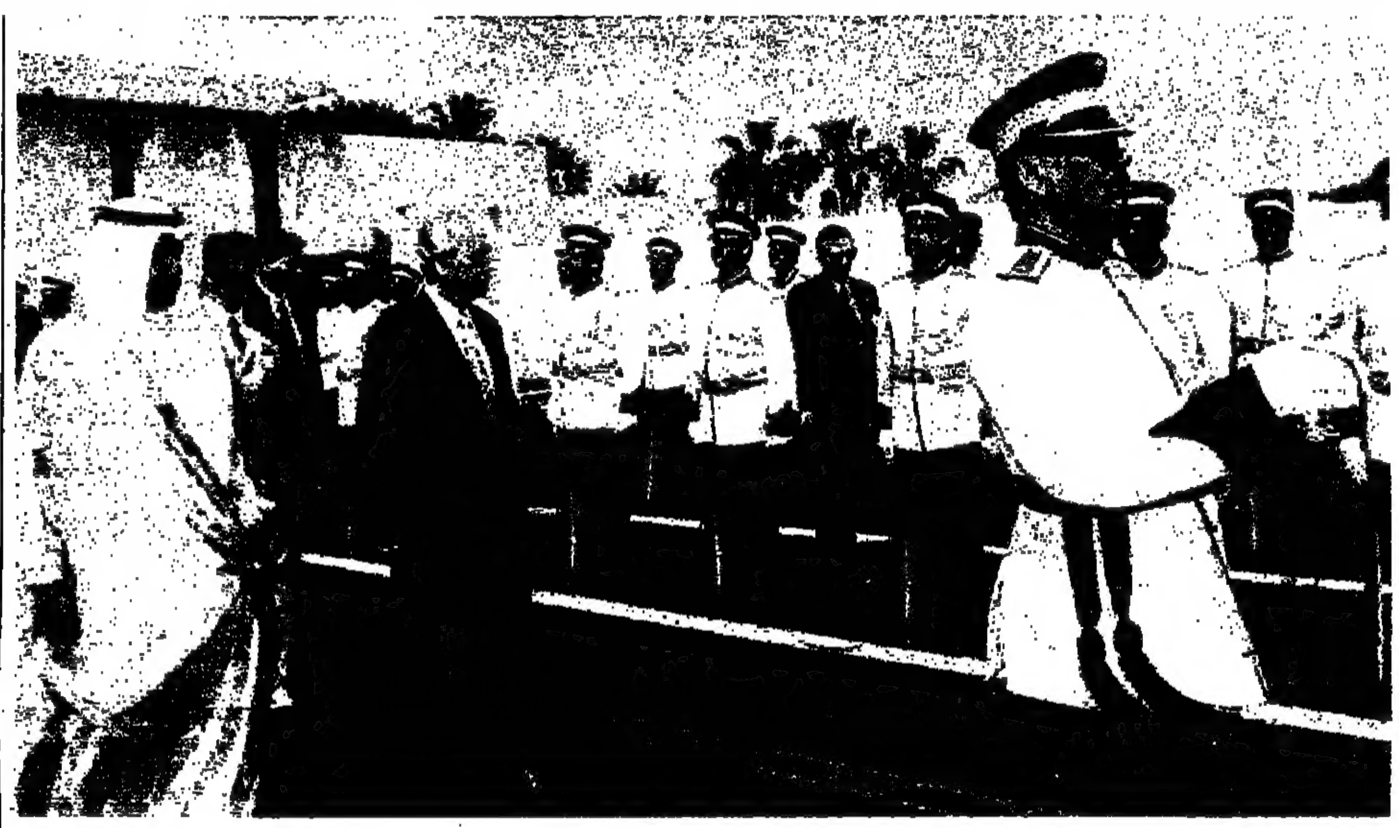
He said Emu could start on time if countries did not use the current economic slowdown as an excuse to delay action to control budgets. He was pleased that governments and the public were more aware of the need to bring social security and other spending under control. But the actual implementation of necessary polices was "still a source of very very serious concern".

The report stressed that governments still had much to do. Last year's overall public sector deficit in the EU was 4.7 per cent of gross domestic product and most states were well above the Maastricht ceiling of 3 per cent.

It said action to bring budgets under control should be taken at once rather than incrementally. "A strategy of too-gradual improvements in fiscal policies stretched over a longer period of time risks failing to gain credibility."

The report said only firm action would allow public finances to take advantage of an expected growth revival and meet the convergence criteria. "The year 1996 will be of crucial

Continued on Page 16
Old themes, new money, Page 2



Israel and Qatar yesterday agreed to set up trade missions in each other's countries under an economic co-operation accord.

The landmark agreement follows the first ever visit by an Israeli prime minister to the Gulf Arab state.

Mr Shimon Peres (centre) yesterday received a red carpet welcome and an honour guard from Qatar's emir, Skeikh Hamad bin Khalifa al-Thani.

The focus of talks between the two leaders was on Middle East peace. Israel has no diplomatic ties with any of the Gulf states, but Mr Peres said a diplomat would head the Israeli commercial office in Qatar to look after his country's economic interests.

Middle East news, Page 5

US economic data provide further signs of recovery

By Michael Prowse in Washington

The US index of leading indicators registered its largest gain in 20 years in February, providing further evidence of economic recovery, according to figures released yesterday.

Separate data from the Commerce Department showed the economy grew at an annual rate of only 0.5 per cent in the final quarter of last year, rather than 0.9 per cent as stated previously.

However, the downward revision partly reflected companies' success in reducing unwanted inventories of goods – a factor that could support a rebound in growth this spring.

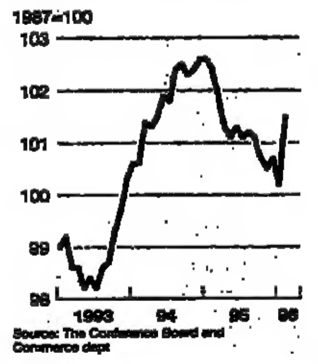
On Wall Street, the stronger tone of recent economic data has all but eliminated hopes of further cuts in short-term interest rates. Far from fearing recession, some economists are now predicting growth could rise to an annual rate of 3 per cent this summer, above the economy's long-term potential.

If growth does accelerate after a sluggish first quarter, the Federal Reserve could face renewed pressure to raise interest rates.

The Conference Board, a New York business analysis group, said the leading index rose 1.3 per cent in February, following a decline of 0.5 per cent in January. The index is designed to give advance warning of changes in economic activity six to nine months ahead. However, many economists regard it as a gauge of current economic conditions.

The jump in the index was related to the surge in payroll employment and hours worked,

Index of leading indicators



Source: The Conference Board and Commerce dept

previously reported by the Labour Department. A lengthening of the average factory working week accounted for 0.8 points of the total 1.3 per cent gain in the index. The second biggest positive contribution came from higher share prices.

The revisions to gross domestic product showed the economy nearly stalled at the end of last year, after growing at an annual rate of 3.6 per cent in the third quarter. Growth for 1995 as a whole was 2 per cent, the slowest since 1991, a recession year.

The lower estimate of fourth-quarter growth reflected downward revisions to inventories and business capital spending and a higher estimate of import growth. This was partly offset by an upward revision in consumer spending growth to an annual rate of 1.2 per cent from 0.8 per cent.

Most economists expect a sluggish first quarter after severe weather in January and other distortions.

■ STOCK MARKET INDICES

New York lunchtime		
Dow Jones Ind Av	5,644.22	(+6.5)
NASDAQ Composite	1,109.01	(+2.44)
Europe and Far East		
CAC40	2,078.41	(+14.78)
DAX	2,501.22	(+12.13)
FT-SE 100	3,728.5	(+10.1)
Nikkei	21,600.68	(+39.69)

■ US LUNCHTIME RATES

Federal Funds	$5\frac{3}{8}$%
3-mth Treas Bills: Yld	5.145%
Long Bond	91$\frac{13}{32}$
Yield	6.62%

■ OTHER RATES

UK: 3-mo Interbank	$6\frac{1}{16}$%	(same)
UK: 10 yr Gilt	$96\frac{1}{16}$	($95\frac{11}{16}$)
France: 10 yr OAT	105.35	(105.07)
Germany: 10 yr Bund	97.48	(97.15)
Japan: 10 yr JGB	99.67	(99.474)

■ NORTH SEA OIL (Argus)

Brent 15-day	$21.09	(19.89)

■ GOLD

New York: Comex		
June	$396.2	(397.7)
London:		
close	$393.6	(394.9)

■ DOLLAR

New York: lunchtime		
£	1.52455	
DM	1.48125	
FFr	5.04765	
SFr	1.19245	
Y	107.45	
London:		
£	1.5243	(1.5254)
DM	1.4818	(1.4832)
FFr	5.0492	(5.0499)
SFr	1.1932	(1.1959)
Y	107.395	(107.525)

■ STERLING

DM	2.2587	(2.2523)
Tokyo close:	Y 107.5	

Albania	LEK 220	Germany	DM4.00	Lithuania	Lts 15.00	Qatar	QR13.00
Austria	Sch37	Greece	Dr400	Lux	LFr75	S.Arabia	SR12
Bahrain	Din1.250	Hong Kong	HK$20	Malta	Lm0.65	Singapore	S$4.30
Belgium	BFr75	Hungary	Ft280	Morocco	MDh16	Slovak Rp.	Sk65
Bulgaria	Lw130.00	Iceland	Ikr230	Neth	Fl 4.75	S. Africa	R12.00
Cyprus	C£1.30	India	Rp75	Nigeria	Naira80	Spain	Pta250
Czech Rp	Kč60	Israel	Shk7.90	Norway	NKr20.00	Sweden	SKr20
Denmark	DKr18	Italy	L3300	Oman	OR1.50	Switz	SFr3.70
Egypt	E£5.00	Japan	Y500	Pakistan	Rs40	Syria	S£85.00
Estonia	EKr 28	Jordan	JD1.50	Poland	Zl 5.50	Tunisia	Din1.750
Finland	FM15.50	Kuwait	Fils 650	Portugal (mainland)	Esc240	Turkey	L80,000
France	FFr11.50	Lebanon	LL3,000			UAE	Dh12.00

CONTENTS

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Rocky times at the cradle of freedom

Lech Walesa went back to his old job only to find a Polish shipyard at odds with a government of former communists

Mr Lech Walesa, Poland's former president, returned in style yesterday to Gdansk to resume his old job as an electrician. Dressed in a smart raincoat and accompanied by two bodyguards, his state-owned black Mercedes swept into a shipyard teetering on the brink of bankruptcy.

His first duty was early morning coffee and biscuits with Father Jankowski, the shipyard chaplain and Mr Richard Goluch, the managing director. Then, after a quick press conference, he went off for a medical whose results will have to be checked before he actually picks up his tools and starts work, certainly not before Easter.

The yard became a symbol of resistance to Soviet-style communism in 1980 after an 18-day strike forced the communist government to recognise the right to form free trade unions. That agreement gave birth to the 10m strong Solidarity movement, an anti-communist coalition of workers, intellectuals and catholic priests.

But the yards' politically important past was not enough to save it from the bitter winds of free market competition. On the contrary, the yard failed to take tough action to raise productivity partly because employees and management alike believed that this glorious past somehow insulated the yard from market discipline.

Mr Walesa demonstrated that he was still prepared to foster such illusions when told the press yesterday he would be seeking investors for the yard on a forthcoming lecture tour to the US. "I shall be telling them that our shipyard – the cradle of Polish freedom – is in trouble," he said.

Sitting beside him was Mr Goluch, managing director in the 1980s, who was brought back recently to try to revive the yard. Beaming, he too said media attention on its most famous employee would raise the yard's profile and help it win the support it needs to survive.

But yesterday Mr Walesa made clear his interest in returning to a job mending electric carts was transitory. His wage will be around 600 zlotys ($230) a month – half that of the security men who guard him and 400 zlotys short of his monthly electricity and heating bills.

"I shall remain tied to the yard till the end of my life," he declared. But he admitted that he would leave his job as soon as parliament voted him the pension he argues is due to him. In the meantime he plans to take one day a week off for political activities and two lecture trips to the US are scheduled.

The media interest in the former president contrasted with an apparent lack of interest among his 7,300 fellow workers who last week voted to accept a restructuring plan which would see the disappearance of around 2,000 jobs and the sale of some assets.

Walesa at his workbench yesterday. He is on half the pay of his bodyguards - until his president's pension comes through Reuter

"All we're interested in is working," said one worker. "We'll wait and see what Walesa can achieve for us," muttered a fitter who had worked at the yard for 32 years.

Yesterday the government, which owns 60 per cent of the yard, advertised it was ready to sell more than 10 per cent to strategic investors. Mr Wieslaw Kaczmarek, the privatisation minister, said he had had at least two offers. One appears to be from Daewoo. The South Korean industrial conglomerate is floating the idea that it would invest in a holding company to include the more modern Gdynia yard 20 miles along the coast and Szczecin near the German frontier, which has – in contrast to Gdansk – successfully restructured its finances and organisation.

The plan also appears to include the Czestochowa steel mill, whose 40 per cent rise in prices last year, has contributed to the industry's problems and the Cegielski engineering works which produces ships' engines. But the yard still has to deal with the heritage of the past, including its accumulated debt of 417.5m zlotys ($167m) at the end of last year.

Past problems included difficulties in switching from supplying the Soviet market to more demanding western clients after 1989 and overcoming a gap in the yard's order book which appeared when the government decided to close the yard in 1988. This decision was rescinded but the Solidarity-led management which followed the fall of communism failed to discipline the workforce or streamline the yard's organisation and signed a series of loss-making contracts.

The new management was expecting profits last year but an unexpectedly strong zloty contributed to an 88m zloty net loss. Delays which plagued the yard in the past continue to do so, increasing the cost of the five ships currently under construction and the 16 on order.

A new business strategy recently prepared by consultants for the yard which forecast significant profits at the turn of the century if support was forthcoming was dismissed as wildly unrealistic by Bank Handlowy, the yard's largest creditor with an exposure of around 300m zlotys.

The bank, which has 60 per cent treasury guarantees on much of its lending to the yard, last month rejected a plea for a debt reduction deal which would have cost more than it would have lost if the yard reneged on its debt. It was this decision which brought the current crisis to a head.

The search for a solution continues with foreign ship owners like Mr Heinrich Schoeller, the head of Columbia, a Cyprus-based company which has contracts to build six ships at Gdansk anxiously watching developments. "They are first rate ships," Mr Schoeller says, echoing other Gdansk clients like the East Asiatic Company from Denmark. "I think the government should support the yard, after all every other government does.

But that is not the policy of Poland's government of former communists, which is committed to persevering with market reforms, opposes subsidies – and is no friend of Mr Walesa.

Christopher Bobinski

Income tax cut urged by BMW chairman

By Wolfgang Münchau in Munich

Mr Bernd Pischetsrieder, chairman of BMW, yesterday urged the German government to raise value added tax and cut income tax.

His call come a day after the chairman of Dresdner Bank attacked the government's high tax policies, and highlight growing discontent among businesses about the high costs of production in Germany and the government's failure to combat rising unemployment and falling economic output.

At BMW's annual news conference, Mr Pischetsrieder said: "We have for years pursued a policy which saw direct taxes as something of particular moral quality. Indirect taxes on the other hand seemed to be tarred with the mark of evil.

"An increase in value added tax and a cut in income tax would reduce the cost of production of goods and services in Germany. This would have a favourable effect on the costs situation for industry."

Germany's VAT rate is 15 per cent on most goods and services, compared with an EU average of 19 per cent. A rise in VAT would affect the price of cars to private buyers, but other manufacturers have said such a move would have no effect on competition as all vehicle makers would be affected.

Chancellor Helmut Kohl said recently he remained firmly opposed to a rise in VAT during this parliamentary term, which is also the official position of the finance ministry and the Free Democrats, the junior partner in the Bonn coalition.

Mr Horst Teltschik, a former adviser to Chancellor Kohl who joined BMW's board three years ago, sat silently when Mr Pischetsrieder launched his broadside on government tax policy.

Mr Pischetsrieder also joined other German manufacturers in criticising the new tax on company cars, which is based on the value of the car. He said luxury cars had pioneered many technologies, such as the catalytic converter and the air-bag, and accused the government of trying to "fan the flames of the old dialogue of envy".

The increasingly blunt comments from business are unusual, as German companies have traditionally left political lobbying to the industry federations. But the federations have lost much of their effectiveness because of internal arguments.

BMW results, Page 17

Themes ancient and modern in contest to design Europe's common banknotes

By Andrew Fisher in Frankfurt

While sceptics and enthusiasts dispute over currency union, traditionalists and modernists can now begin to argue about what the new money should look like.

The European Monetary Institute – forerunner to the European central bank – gave details yesterday of what would appear on the new notes, how they would be made forgery-proof and how they could be recognised by the blind and partially sighted.

Still to be decided, the EMI says in its annual report, is whether the notes will be the same for all participating countries. One option – which might help ease some sceptics' fears of loss of national identity – is to have a limited national feature occupying no more than 20 per cent of one side.

The notes will have an element of linguistic harmony by including the initials of the European central bank in five variations – ECB, BCE, EZB, EKT, EKP – which fit the 11 European Union languages. The "12 stars" EU symbol will also be printed.

It is in the designs for the notes that scope for disagreement between lovers of the traditional and proponents of the avant garde lurks.

The EMI launched a competition in February for the design of the seven banknotes, which are planned to be in circulation by 2002.

In the seven-month contest, banknote designers nominated by the 15 existing central banks will try to ensure that the appearance of the new banknotes is more interesting than the currency's bland name – the euro – which will also be on the notes.

The EMI is calling for designs for seven banknotes – for 5, 10, 20, 50, 100, 200 and 500 euros – and has selected two possible themes: ages and styles of Europe or an abstract/modern design. Yesterday, it said the traditional subjects would cover stages of European cultural history – Classical, Romanesque, Gothic, Renaissance, Baroque and Rococo, the age of iron and glass architecture, and modern 20th century architecture.

The abstract theme would have a modern design showing abstract or figurative elements.

The Bundesbank has asked three professional designers to submit proposals, leaving the choice of ancient or modern up to them.

Efforts are being made to ensure that blind and partially sighted people can use the Euro banknotes easily. Each denomination will be a different size and a different dominant colour, will show clearly visible numbers in the same position on all notes and be recognisable by touch.

The notes will also have advanced security features to make them at least as forgery-proof as existing currency. These will include watermarks and security threads, and special printing techniques such as optically variable ink.

Countries' performance on three Emu criteria

	Inflation %	Budget deficit (or surplus) as % of GDP	Gross debt as %age of GDP
Belgium	1.4	-4.5	134.4
Denmark	2.3	-2.0*	73.6
Germany	1.6	-2.9*	58.8*
Greece	8.0	-9.3	114.4
Spain	4.7	-5.9	64.8
France	1.7	-5.0	51.5*
Ireland	2.4	-2.7*	85.9
Italy	5.4	-7.4	124.9
Luxembourg	1.9	0.4*	6.3*
Netherlands	1.1	-3.1	78.4
Austria	2.0	-5.5	68.0
Portugal	3.8	-5.4	70.5
Finland	1.0	-5.4	63.2
Sweden	2.9	-7.0	81.4
United Kingdom	3.0	-5.1	52.5*
Total EU	3.0	-4.7	71.0

TARGETS
Inflation: No more than 1.5 percentage points above the average of the best three countries.
Deficit: No more than 3 per cent of GDP.
Total debt: No more than 60 per cent of GDP.
*Meets criteria.
Based on European Commission forecasts in autumn 1995.
Estimates from national authorities suggest higher deficit to GDP ratios in the case of countries such as Germany, the Netherlands, Finland and Sweden. They also suggest lower deficit ratios for Denmark, Ireland, Portugal, Spain, Italy and Greece

There is good and bad news on Europe's progress towards fulfilling the Maastricht criteria for economic and monetary union, Mr Alexandre Lamfalussy, the president of the European Monetary Institute, said yesterday, writes Peter Norman in Frankfurt.

In all probability, there had been a "major change" towards convergence of inflation rates at a low level, he said. But fiscal and budgetary positions had deteriorated, with recent figures putting Germany's 1995 public sector deficit at about 3.5 per cent of GDP.

EU member states will have to meet other conditions before starting Emu, including adequate convergence of long-term interest rates, implementation of national central bank independence and a demonstration of exchange rate stability.

Bosnia nee ls political solutior , says mediator

By Nancy Dunne in Washington and Bruce Cl in London

Mr Carl Bildt, the international mediator in Bosnia, said yesterday he hoped that western forces would not be needed in the region beyond 1996, but stopped short of ruling this out.

Asked whether he saw the need for military forces in Bosnia beyond this year, he said: "Not necessarily." He added, however, that he hoped a continued deployment would not be necessary, because the local parties should be taking more responsibility.

"I would wish that we might be in a situation at the end of the year when we would not require the presence of military forces," he said. "The presence of a large number of foreign forces has an impact on a society which is not necessarily good in the longer term," he said in Washington, where he is lobbying for maximum support for Bosnian reconstruction ahead of a donors' conference in Brussels on April 12.

He said the problems now faced by the peace process – reconstruction, reintegration and reconciliation – were all political tasks, not military ones and "political problems must be solved by political means".

He said there still major difficulties to resolve ahead of elections, including a lack of telecommunications.

Mr Ron Brown, the US commerce secretary, arrives in Bosnia today, accompanied by 15 US business executives who are interested in reconstruction contracts.

In a rare show of co-operation with the administration over Balkan policy, the US Congress late last week approved $199m for Bosnian relief for 1996, only $2m less than requested.

The aid package agreed by Congress includes $65m for early disbursement to small and medium-sized Bosnian businesses and $80m for infrastructure projects. The assistance will be concentrated in Tuzla, Zvornik and other regions where US soldiers are stationed.

The US executives are concerned that European companies have a head start in bidding for reconstruction contracts to be awarded over the next three to four years.

"The US delivered the peace, and the French are going to sell the goods," said Mr Joseph Grandmaison, head of the US Trade and Development Agency, who accused the Europeans of "cherry-picking" the best projects.

"You will have to decide if any piece of the pie will be available for Americans," Mr Grandmaison told business representatives in Washington.

Mr John Sullivan, an executive accompanying Mr Brown, said US business had learned from its experience after the Gulf War. Europeans and Japanese had received the lion's share of Kuwaiti reconstruction because they were first on the spot.

British army units guided in UK business delegations at the close of the war, he said.

Mr Brown said Bosnian and Croatian officials had been pressing for the US mission, and he may have deals to announce. He added that Boeing was "back at the table" in the bidding to supply civil aircraft to Croatia – the sale of 18 European Airbus aircraft may no longer be the "done deal" it seemed two weeks ago, he said.

Election freeze on Italian jobs

By Robert Graham in Rome

Several key Italian public sector banking and business appointments have been postponed in the run-up to the general election on April 21.

The appointments had become highly sensitive, with the right-wing alliance headed by former premier Silvio Berlusconi accusing the government of Mr Lamberto Dini of abusing its caretaker mandate.

The most important appointment was that of Mr Franco Bernabè, chief executive of Eni, the state oil company. This has been put back for 45 days.

The Dini government will almost certainly still be in office then; but the election result should provide some idea of the complexion of the next administration to help in the choice.

The rightwing National Alliance of Mr Gianfranco Fini, Mr Berlusconi's principal partner, has been gunning for Mr Bernabè to control the oil group's considerable patronage, especially in the south.

The other important appointment concerns that of Mr Mario Sarcinelli, the chairman of Banco Nazionale di Lavoro (BNL), the most important bank left in state hands. A decision here will not be necessary until June when the new government should be operating.

Mr Dini has been attempting to continue with as much government business as possible. But he has faced growing criticism for using his position as premier to further his own political ambitions at the head of his newly formed party, Italian Renewal. While some of the criticism appears justified, he is also facing a scurrilous campaign to undermine his credibility.

Yesterday Mr Fulvio Damiani, his party spokesman, listed a series of dirty tricks. These included: formation of a spurious rival party by one Mr Mariano Dini immitating his symbol; local newspapers publishing advertisements with false addresses and telephone numbers for his party; publication of a fake web site on the Internet by Il Giornale, the daily owned by Mr Paolo Berlusconi, the younger brother of Silvio and a false announcement for a meeting in Rome.

EUROPEAN NEWS DIGEST

Tirana backed on war games zone

The United States will support Albania's plans for a military training area open to Nato members and Partnership for Peace countries, Mr William Perry, the US defence secretary, said after bilateral talks yesterday.

Mr Perry, on a three-day visit to Albania to attend a South Balkans defence ministers' conference, said the US had no plans to establish its own base in the country. No commitment of American financial support for a training facility has been confirmed but according to US officials an assesment is underway.

US-Albanian military ties have grown stronger since 1991, when Albania began democratic reforms. Last year the US sponsored nine joint and multilateral training exercises in Albania.

Another peacekeeping exercise is planned for July. In addition to $3.5m allocated this year to Albania through Warsaw Initiative Funds, the US, said Mr Perry, has contributed more than $2m for military equipment and has contributed other surplus military equipment. *Marianne Sullivan, Tirana*

West European truck sales soar

Sales of commercial vehicles and trucks weighing more than 5.1 tonnes jumped by 19.5 per cent to 255,387 units last year, according to provisional figures from the European Automobile Manufacturers' Association (ACEA).

ACEA, which produces the monthly European car sales statistics and has just turned its hand to commercial vehicles, warned the figures were subject to alteration, as many European countries were very slow in publishing data on commercial vehicles. ACEA's data covers the European Union, Norway and Switzerland, but excludes Greece.

Sales of trucks weighing more than 12 tonnes, seen as a good forward indicator of economic growth, rose particularly strongly last year, with a 26 per cent leap to 183,172 units. Truckmakers have warned that sales this year are likely to rise much more slowly, with some warning that the market faces stagnation. *Haig Simonian, London*

German pay-TV for Uefa game

The German television channel, Premiere, with only 1.15m customers, has caused controversy after its decision yesterday to introduce subscription TV for the return leg of the Barcelona against Bayern Munich Uefa cup football semi-final on April 16.

The first leg of the semi-final was at Bayern's Olympiastadion. Up to 10m viewers are expected to watch the match – that was the number of viewers for Saturday's Bayern Munich and Borussia Dortmund game. "Millions are excluded for not having a decoder. That is not fair," said German football federation president, Mr Egidius Braun. Bayern Munich's general manager, Mr Uli Hoeness, was also unhappy such a large number of spectators would not be able to tune in. However the head of Premiere's sports service was adamant it was right for the station to start with an important match. *AFP, Bonn*

Bankruptcies slow in France

The number of corporate bankruptcies in France rose 1 per cent in October 1995 to 4,487, from 4,427 a year earlier, the national statistics bureau, Insee, reported yesterday. But for the 12-month period through October bankruptcies fell 6.5 per cent from the comparable 1994 period, to 53,586. October bankruptcies also fell 1.5 per cent from 4,556 in September.

Compared with a year earlier, the number of bankruptcies in October declined in most business sectors except for construction and non-food wholesaling, and was stable in the hotel and services sectors.

Insee also reported that French retailers in March are less pessimistic than they have been in past months and expect to increase their orders. The exception to the rosier outlook comes among retailers in the transport sector. On Monday, Insee published a survey showing that wholesalers also were less pessimistic about the future and planned to increase their orders. *AP Dow-Jones, Paris*

Swedish deficit set to increase

Sweden's public sector deficit for the 18 months to December 1996 will total SKr198.3bn ($30bn), the national audit bureau (RRV) said yesterday, some SKr17bn kronor higher than the last estimate, set at SKr181bn by the bureau in December.

The increase is due to interest on the state debt, RRV said. The interest is calculated at SKr120.4bn based on March 20 rates, an increase of SKr15.4bn from December.

When the Swedish government presented its revised budget to parliament last April, it predicted a deficit of SKr213.6bn. The current fiscal period, running from July 1 1995 to December 30 1996, is transitional as the Swedish public sector goes over to calendar year calculation. *AFP, Stockholm*

Dutch to limit cannabis sales

The main parties in the Dutch parliament agreed yesterday to cut the amount of cannabis sold to customers in the nation's coffee shops from 30g to 5g.

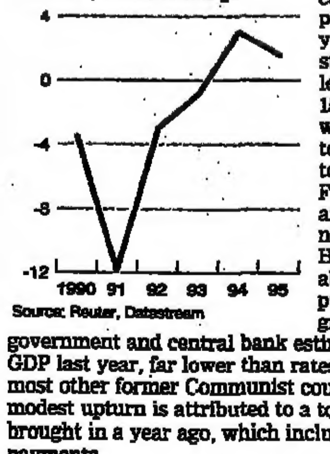
The parliamentary decision is the first step towards new measures further limiting the country's sales of soft drugs that have angered its European neighbours. It has not been decided when the new limit will go into effect.

The lower allowance would make it harder for small-time drug traffickers to amass saleable quantities of drugs through over-the-counter purchases in the Netherlands.

Both hard and soft drugs are officially illegal, but small-scale sales and purchases are not prosecuted, with authorities devoting their resources to pursuing large-scale traffickers. France and Germany contend that the availability of soft drugs in the hundreds of coffee shops attracts drug tourists who smuggle their purchases back to their home countries. *AP, The Hague*

ECONOMIC WATCH

Hungary registers 1.5% growth



Hungary's gross domestic product rose by 1.5 per cent last year, down from 3 per cent in 1994, according to preliminary figures released yesterday by the central statistical office. Growth was led by exports which rose by 15-16 per cent in real terms while imports remained close to 1994 levels. The CSO said total GDP was around Ft5,500bn ($4,300 per capita), around a third of the level in neighbouring Austria. However, this amounted to about $7,000 per capita in purchasing power parity. The growth figure is below government and central bank estimates of a 2 per cent rise in GDP last year, far lower than rates of 5-7 per cent recorded in most other former Communist countries in the region. The modest upturn is attributed to a tough austerity package, brought in a year ago, which included cuts in welfare payments.

The CSO said the cuts had contributed to a fall of about 6 per cent in average real incomes while real wages had fallen by 10-12 per cent. *Virginia Marsh, Budapest*

■ Consumer prices in the EU rose 2.7 per cent in February from a year earlier, compared with a 2.8 per cent rise year-on-year in January, Eurostat said.

هكذا من الاصل

NEWS: EUROPE

Yeltsin signs Belarus union pact

By Chrystia Freeland in Moscow

Jesus Christ and the ghost of the Soviet Union were both evoked at a lavish ceremony yesterday when Russian President Boris Yeltsin signed a landmark union treaty with neighbouring Belarus, which the Kremlin leader hopes will boost his chances of re-election.

Less than three months ahead of the June 16 presidential ballot, the deal is part of Mr Yeltsin's campaign strategy of outflanking his communist rival by adopting his most popular proposals, including the promise to re-build the Soviet Union.

In an event covered live on national television, Mr Yeltsin and his Belarusian counterpart, Mr Alexander Lukashenko, signed a wide-ranging agreement on political, economic and military co-operation which is the biggest step towards resurrecting the Soviet Union since it collapsed more than four years ago. The two leaders urged other former Soviet republics to join the new union.

"A historic moment has arrived in relations between the Russian Federation and Belarus," Mr Yeltsin said before retiring with his Belarusian counterpart to celebrate the deal with vodka. "This document opens a qualitatively new stage in the history of our two brotherly peoples."

Boris Yeltsin beside a Kremlin guard dressed in a redesigned uniform after the signing of the treaty with Belarus yesterday Reuter

But the signing – heavily laced with references to both Imperial Russia and the Soviet Union – could provoke fears in the west and independently-minded neighbouring countries such as Ukraine that Moscow intends to rebuild its old empire.

Alexei II, patriarch of the Russian Orthodox Church which was for centuries closely associated with the Kremlin's imperial achievements, was on hand to bless the "sacred cause". Even the shorthand name of the new union – SSR (the Russian acronym for "Community of Sovereign States") – was a self-conscious allusion to SSSR, the Russian version of USSR.

Both presidents insisted that the new union would not diminish the sovereignty of their two Slavic states, but it provoked an immediate protest in Minsk, the capital of normally quiescent Belarus. Some 10,000 demonstrators marched through the city centre to denounce the pact.

Previous attempts to reunite Russia and Belarus have foundered as the Moscow authorities started to calculate the costs of absorbing their impoverished neighbour.

Some observers speculated yesterday that this new treaty, which calls for eventual monetary union, could face a similar fate.

Mr Yeltsin, whose sights are firmly set on the forthcoming presidential battle, is unlikely to be troubled by such long-term concerns.

The Russian leader is likely to feel vindicated by the latest opinion polls which suggest that suggest his attempt to co-opt the political and economic agenda of the Communists is paying off. A survey released yesterday showed Mr Yeltsin's approval rating at 21 per cent, up from 15 per cent at the beginning of March.

However, Mr Gennady Zyuganov, the Communist candidate, was still in the lead, with 27 per cent support. This was a slight increase on his 25 per cent showing at the start of the month.

Mr Yeltsin's shift towards a more openly expansionist policy could create a political dilemma for western leaders, who fear a resurgence of Russian imperialism, but also hope that Mr Yeltsin wins in June.

THE FINANCIAL TIMES
Published by The Financial Times (Europe) GmbH, Nibelungenplatz 3, 60318 Frankfurt am Main, Germany. Telephone ++49 69 156 850. Fax ++49 69 596 4481. Represented in Frankfurt by J. Walter Brand, Wilhelm J. Brüssel, Colin A. Kennard as Geschäftsführer and in London by David C.M. Bell, Chairman, and Alan C. Miller, Deputy Chairman. Shareholders of the Financial Times (Europe) GmbH are: The Financial Times (Europe) Ltd, London and F.T. (Germany Advertising) Ltd, London. Shareholder of the above mentioned two companies is: The Financial Times Limited, Number One Southwark Bridge, London SE1 9HL.
GERMANY:
Responsible for Advertising: Colin A. Kennard. Printer: Hürriyet International Verlagsgesellschaft mbH, Admiral-Rosendahl-Strasse 3a, 63263 Neu Isenburg ISSN 0174 7363. Responsible Editor: Richard Lambert, c/o The Financial Times Limited, Number One Southwark Bridge, London SE1 9HL.
FRANCE:
Publishing Director: P. Maraviglia, 42 Rue La Boetie, 75008 PARIS. Telephone (01) 5376 8254, Fax (01) 5376 8253. Printer: S.A. Nord Eclair, 15/21 Rue de Caire, F-59100 Roubaix Cedex 1. Editor: Richard Lambert. ISSN 1148-2753. Commission Paritaire No 67808D
SWEDEN:
Responsible Publisher: Hugh Carnegy 468 618 6088. Printer: AB Kvällstidningen Expressen, PO Box 6007, S-550 06, Jönköping.

Editor Richard Lambert, c/o The Financial Times Limited, Number One Southwark Bridge, London SE1 9HL.
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Country that wants to be loved by Russia

By Matthew Kaminski, recently in Minsk

Three times this century, Belarus turned into a killing field. Both wars claimed millions of lives and Stalin's purge claimed the small local intelligentsia. From then on Soviet orthodoxy took firm root.

Today the scars run deep, exposing a fatalism and passivity in the country of 10.7m that served to curb the national revival and broad commitment to change which characterised the post-1991 era for its neighbours, all located near the geographical centre of Europe.

As Lithuania and Poland hanker to join the European Union and Ukraine works to strengthen its sovereignty, Belarus yesterday took another step back towards Russia, the imperial power for the past three centuries.

The countries' two leaders signed a treaty establishing a Community of Sovereign Republics and promising ever deeper reintegration.

President Boris Yeltsin, running in a tough electoral race, needs the deal to court Russian voters saddened by their nation's lost prestige following the Soviet collapse.

His Belarusian counterpart, Mr Alexander Lukashenko, always argued that reforged links with Russia are preferable to any painful economic overhaul. Minsk already depends on cheap energy imports and hopes the doors to Russia's large market again will be swung open.

The treaty envisages a common monetary and fiscal policy in place by the end of 1997, when negotiations on a common currency ought to begin. Belarus and Russia would each contribute 3 per cent of the annual budgets to a single pot to fund new capital and military projects, said Mr Valery Tsepkalo, the Belarusian deputy foreign minister.

Under the treaty, the countries would stay independent, but Mr Lukashenko does not shy away from calling for an outright confederation.

From the Russian perspective, the economic argument for union must make limited sense. In the past two years, Russia has refused to throw Belarus a financial lifebelt, scrapping a currency union deal in 1994 and slowly raising subsidised gas export prices.

Officials in Minsk might expect Russian industrial giants to revive the commercial activities that gave Belarus the highest living standards in the Soviet Union, but these concerns are mostly privatised and unwilling to turn the clock back.

Unlike his Russian peers, Mr Lukashenko remains strongly committed to a command economy: last year strict foreign currency regulations were reimposed and privatisation was halted. The president last week got a budget through parliament with a fiscal deficit above 6 per cent, impossible to finance without a large jump in inflation. Since February, new private businesses have not been allowed to register.

The International Monetary Fund, which last month approved a $10.2bn loan for Russia, this year cancelled Belarus's $300m stand-by facility. Even without the latest deal, Russia's interests in Belarus were secure.

Russian customs officials police the western Belarusian border with Poland and Moscow's troops remain where they were in 1991. Gazprom, the semi-private gas monopoly, owns a bulk of Belarus's energy infrastructure and soon plans to finish a new pipeline across its territory.

Mr Stanislau Bohdankebich, a former national bank chairman whose liberal Civic Union party holds 20 of the 197 seats in parliament, called the union treaty "an ordinary bluff", since Russia would not spend precious hard currency to prop up Belarus.

The Belarusian president's motives tend to baffle outsiders. After he took office in 1994, newly published Belarusian school books were replaced with the old Soviet history and language texts. The country's limited democracy also raises outside concern. The opposition has little access to the media and no independent television news is shown.

The US State Department's annual human rights report said that Belarus had "turned back towards Soviet-era authoritarian practices".

Few Belarusians speak their own language and most schools continue to teach only in Russian.

Belarus, unlike other eastern European nations, has never developed an independent identity – and the current president and his supporters appear to prefer it that way.

Juppé welcomes Socialist predecessor's jobs plan

Mr Alain Juppé, France's centre-right prime minister, yesterday gave a warm reception to proposals from one of his Socialist predecessors for a radical cut in working hours to create more jobs, Reuter reports from Paris.

Mr Juppé took the unusual step of receiving Mr Michel Rocard at his office and instructing the government's planning department to study his proposal for varying payroll deductions in proportion to the reduction in the working week from the current 39 hours to a future 32 hours.

Mr Rocard argues that the cost of the measure could be met by the saving on welfare benefits to the state from a substantial reduction in unemployment, which stood at 11.8 per cent of the workforce in February. An official close to Mr Juppé said the prime minister was "very attentive to all those who have imaginative ideas for adapting or reducing working hours", and had ordered a detailed cost-benefit study of the measure within six weeks.

Mr Juppé reiterated in an interview with the weekly Catholic magazine, La Croix, that the government would intervene with new laws by the middle of this year if bosses and unions did not agree some change in the working week based on their own discussions.

"If there is nothing else happening, we will try to come up with an intelligent text which is as balanced as possible."

Mr Juppé said a number of business leaders had agreed such pacts, to the benefit of the companies as well as employees: "It's a pity that this spirit has not spread wider."

Mr Rocard, regarded as being on the rightwing of the Socialist party, reacted angrily when asked by reporters whether he was not playing into the government's hands by acting as a consultant to Mr Juppé. "Do you believe that (political) orthodoxy means we should kill each other and never meet? I don't give a damn for that orthodoxy. I am a citizen of my country and I want it to get better," he exclaimed.

Mr Rocard said the Socialists, who presided over soaring unemployment in government in 1981-86 and 1988-93, had taken time to find a way of financing reductions in working hours by compensating loss of earnings with money saved by the state if unemployment fell massively.

Import tax cloud over China projects

By Tony Walker in Beijing and Haig Simonian in London

Foreign investors who have been scrambling for project approvals in China still face uncertainty over the rules imposing duties on imports of capital equipment from this week.

Investors complain about lack of transparency and have warned that the removal, from April 1, of the tax exemption on imports of plant and equipment may jeopardise new projects, including those involving automotive groups General Motors and Mercedes-Benz.

"It's kind of exasperating they haven't published the regulations," said Ms Anne Stevenson Yang of the US-China Business Council. "But it's clear they want to leave themselves some wiggle room by not pinning everything down."

Ms Stevenson Yang attributed the delay in publication of regulations to continuing discussion within the bureaucracy about criteria for projects which might be eligible for special consideration.

When it announced the decision to remove tax exemptions on equipment imports for foreign-funded ventures, China said exceptions would be made, but these would have to be large projects and final decision would rest with State Council, or cabinet.

Consideration will almost certainly be given to exempting $1bn projects involving GM and Mercedes. BASF, which is planning a $4bn petrochemical complex on the Yangtze, west of Shanghai, could also get special treatment.

But these large investors cannot be certain they will be exempt and this is adding uncertainty to feasibility studies.

GM, Mercedes and BASF, all of which are in the feasibility phase, had not secured approval for their projects by the April 1 deadline.

The US-China Business Council estimates the imposition of 40 per cent duty on capital equipment imports could increase the cost of a typical investment by 25 per cent.

The decision to remove the exemption follows pressure from Chinese state-owned companies, which argue the relief gives foreign joint ventures an unfair competitive advantage. The central government also saw the move as a way to increase revenues.

China had ruled that projects approved before April 1 would be entitled to exemption. But the central government is insisting it "re-approve" hundreds of projects authorised by local governments in a rush of activity before the April 1 deadline.

This suggests the centre is unhappy about vetting procedures by provinces and municipalities which are authorised to approve projects up to $30m.

The potential impact of the new rules is greatest in the motor industry, with GM planning to build an "upscale" medium-sized passenger car and Mercedes-Benz a multi-purpose "people-carrier".

These projects would rely heavily on imported capital goods, such as sophisticated metal presses, machine tools and robots.

"We are not in a position to say if it would break the project," said Mr Rudy Schlais, the executive heading GM's plans. "It will not be advantageous for the project, but we are in China for the long term."

According to Mr Ivo Maull, the manager leading Mercedes-Benz's China investment, the project would face a serious risk of collapse if import duty relief were removed.

Mr Andrew Halper, representative in Beijing of a Canadian law firm, Goodman, Phillips and Vineberg, said he "would very surprised" if China were not flexible.

Mr Martin Posth, the managing board member of Volkswagen who set up the company's joint venture in China 11 years ago, believes domestic manufacturers will advise the government "not to endanger the local car and components industries".

Mitsubishi plans to buy east German CD maker

By Frederick Studemann in Berlin

Mitsubishi, the Japanese industrial group, is negotiating to buy Compact Disc Albrechts, an east German compact disc manufacturer owned by the state of Thuringia, a government spokesman confirmed yesterday.

The spokesman said negotiations should be concluded "in several weeks", but would not say how much Mitsubishi was expected to pay for the company. Mitsubishi is handling the negotiations through its floppy and optical disc-making subsidiary Verbatim.

The CDA plant in Thuringia, built by the Munich-based Pilz Group in 1992, enjoyed a reputation as the home of East Germany's electronics industry under the communists. It employs some 300 people and is one of Europe's most modern compact disc factories with an annual manufacturing capacity of 100m CDs.

Originally a specialist construction company, Pilz diversified into CDs after it built a factory for a client and realised the potential in CD manufacturing. By 1992 Pilz had become the world's fifth largest maker of CDs.

But rash over-expansion and recession pushed privately-held Pilz into financial difficulties. In 1994 the state of Thuringia stepped in to save the Albrechts plant which it acquired for free in return for capital to meet debts and ensure that the factory continued working.

"The alternative would have been liquidation and the loss of all jobs," the spokesman said.

A sale of CDA to Mitsubishi would increase the presence of Japanese companies in Thuringia. Last month Fujitsu, the Japanese electronics group, announced that it had chosen Thuringia as the manufacturing base for its consumer personal computer division in Europe.

Fujitsu came to Thuringia through its British subsidiary ICL, which last year bought German personal computer maker ASI based in Bad Homburg and Sömmerda, Thuringia. Following the decision to concentrate operations in Sömmerda, output at the factory which employs 450 people, will rise this year to 230,000 units from 180,000 last year. Fujitsu forecasts a significant increase on the DM400m ($270.9m) in sales achieved by ASI in 1995.

● Sony, the Japanese electronics company, said yesterday it had chosen Godollo, a town east of Budapest, for its first big manufacturing venture in former communist eastern Europe, reports Virginia Marsh in Budapest.

The greenfield plant, which will come into operation early next year, will produce compact disc players and is later due to add colour televisions, stereo systems and video recorder decks. Sony is purchasing a 109,000 sq m site for the plant will eventually employ 700. Initial investment is DM30m.

Silicon Valley comes to Caribbean

North American companies are attracted by production savings, writes Canute James

The hum of air conditioners and the steady tapping of keyboards compete as rows of software engineers work on a product which has been contracted to their company by Microsoft of the US.

At a nearby plant, others are collating indices for business periodicals and responding to requests for subscriptions. A few hundred metres away, other workers at keyboards are processing, authorising and questioning claims made on a Canadian insurance company.

This is not Silicon Valley, or anywhere close. This is Barbados in the eastern Caribbean. Barbados competes with several other countries for a share of the offshore information services business – a market valued at between $30bn and $40bn a year in the US and Canada.

The increasing cost of production in the US and Canada is one factor encouraging many companies to contract more of their information services work to offshore locations. Countries which can provide adequately educated and trained workers, and modern, reliable telecommunications are getting in on that market.

Favoured locations close to the US for a range of information services include Barbados, Jamaica and the Dominican Republic, according to Mr Thomas Lipscomb, president of Infosafe Systems of New York. There is also some work being done in India, the Philippines and the Far East.

The services being contracted offshore range from basic data entry to software engineering and the writing of software solutions. As a result, the quality of workers influences the choice of an offshore location. High levels of education guarantee a higher level of accuracy and cut costs.

Work habits are also influential. Companies in offshore locations which have high unemployment traditionally have a lower level of worker turnover than those in North America. Sound telecommunications infrastructure plays a part, as do reliable electricity and transportation.

"We have been doing much work in India, which has some of the best software engineers in the world," said Mr Douglas Mellinger, chairman of PRT of New York, which has established a subsidiary in Barbados, "but we had problems when we moved to some of the more sophisticated work because of inadequate infrastructure.

"We were attracted to Barbados by the relative high level of education and the infrastructure, and our company on the island is successfully doing work for firms such as JP Morgan, Phillip Morris and AT&T," he said.

While they consider the economic factors, such as production costs, as important, software companies are continuously concerned about the security of their product when it is not really under their control, said Ms Priscilla Emery, vice president for market research of the Association for Information and Image Management International, a Maryland trade organisation.

Concern about the protection of patents and the prevention of piracy are a big considerations, but companies are dealing better with electronic piracy if not with physical theft.

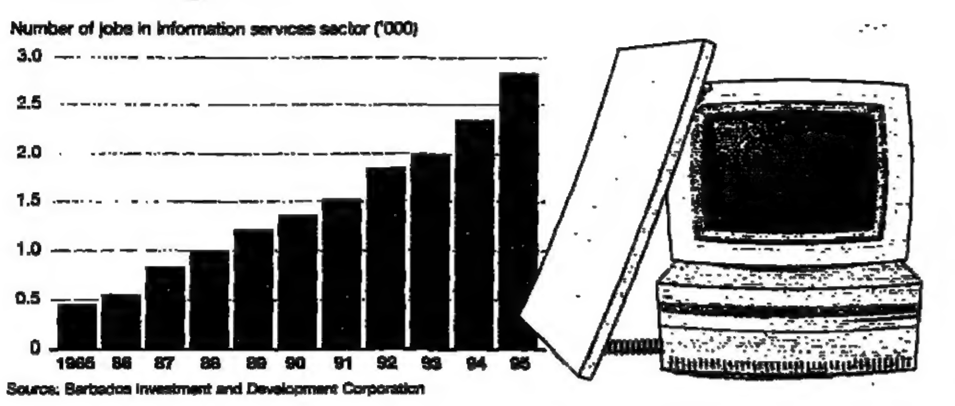
Software companies looking for offshore locations stay away from countries that do not have a history of respect for intellectual property and where legislation is not as sophisticated as it is in the US, said Mr Mellinger.

"The greater danger is to companies doing software development offshore than it is for those doing solutions, but all companies will have to take steps to ensure that they have adequate physical and network security."

The promise of more lucrative markets for higher levels of technology is already changing the type of work done by some offshore locations.

"Barbados is in transition and is trying to move away from the basic services such as data entry to the higher end of the market such as software engineering and systems designs," said Mr Lawson Nurse, chief executive of the Barbados Investment and Development Corporation. "We cannot compete with the lower labour cost locations which are doing basic data entry."

Barbados: keyed in



Source: Barbados Investment and Development Corporation

US business impatient for lift-off in Vietnam

By Jeremy Grant in Hanoi

To the sound of clinking glasses, US and Vietnamese officials yesterday toasted another milestone. Eight months after burying the hatchet and normalising diplomatic relations, a US trade office was unveiled in Hanoi.

Yet beneath the polite cheer, there were grumbles from the US business community.

There were high expectations among business that economic normalisation – specifically an all-embracing trade pact – would swiftly follow President Bill Clinton's cementing of diplomatic ties in August 1995. "I don't think we're going to see it [economic normalisation] this year," said one Hanoi-based US businessman.

Vietnam badly wants the pact as Most Favoured Nation (MFN) status could follow shortly afterwards. MFN would give Vietnam access to the US market for its textile and commodity exports.

US investors also want to see the award of US government-backed Export-Import Bank guarantees and the Overseas Private Investment Corporation (Opic) insurance cover to Vietnam-related business.

Large corporations such as Boeing, the US aircraft manufacturer, telecommunications giant AT&T and General Electric are hoping to win infrastructure contracts in Vietnam but are unable to make what they say are competitive bids without Export-Impport Bank and Opic cover.

Buses bearing advertisements for Caterpillar earth-moving equipment trundle through Hanoi but the messages they carry have not translated into significant sales.

The US ranks as sixth largest investor in Vietnam with 53 projects valued at $1.14bn. US businessmen blame complicated negotiations over tariff structures for some of the slow progress.

Domestic US political opposition to speedy moves towards trade normalisation has also hampered progress.

Washington insists, as it has done since relations were normalised, that the US priority is accounting for those still listed as missing in action in the Vietnam war.

"I get a sense that the state and commerce departments are doing things but not at the pace we'd like it to be. Opic and Export-Import Bank are, from a business point of view, ready to rock and roll," said one US banker.

However Mr Timothy Hauser, acting Commerce Department under-secretary, insisted progress was being made: "I would look back to the fact that it's been only eight months since the president took the bold step to normalise relations," he said.

CONTRACTS & TENDERS

UNITED STATES BANKRUPTCY COURT
FOR THE DISTRICT OF OREGON

In re	Chapter 11
COLUMBIA WESTERN, INC. f/k/a/ Riedel Environmental Technologies, Inc.	Case No. 395-35394-ELP11
Debtor	NOTICE

TO: ALL CREDITORS OF THE DEBTOR, INCLUDING HOLDERS OF DEBENTURES, ALL STOCKHOLDERS OF THE DEBTOR, AND ALL OTHER PARTIES IN INTEREST:

Pursuant to the Debtor's Third Amended Plan of Reorganisation (the "Plan") confirmed in this case on December 11, 1995, Development Specialists, Inc. was appointed Consummation Agent under the Plan. The Consummation Agent hereby gives notice as follows:

1. Notice of Tender Deadline. Section 6.9 of the Plan provides that holders of the Debtor's Debentures and Common Stock are required, not later than the Tender Deadline, to deliver their respective securities to the Consummation Agent in exchange for the distributions provided under the Plan or be barred from any distributions under the Plan or otherwise on account of such securities. The Tender Deadline is defined by the Plan as the first business day following one year from the Effective Date, the Tender Deadline is therefore December 13, 1996. The effect of this provision of the Plan is that, if debentureholders and stockholders do not deliver their Debentures or stock certificates to the Consummation Agent at the address set forth below on or before December 13, 1996, such debentureholders or stockholders will not be entitled to receive any distributions under the Plan. Debentures and stock certificates should be sent to:

   Development Specialists, Inc.,
   Attn: Mr William A Brandt, Jr. or Ms Deva E. Mee
   Suite 2010, 333 South Grand Avenue
   Los Angeles, California 90071-1524

2. Consummation Agent's Motion for Instructions Regarding Debentures. On or about March 5, 1996, the Consummation Agent filed in the Bankruptcy Court the Consummation Agent's Motion for Instructions Regarding Debenture Distributions (the "Debenture Motion") in which the Consummation Agent seeks instructions from the Bankruptcy Court regarding distributions in respect of the Debenture. Specifically, the Consummation Agent has suggested to the Court that it be instructed as follows:

   A. No Debenture holder shall be entitled to Option B treatment (payment in cash as opposed to Pine Brook stock) unless a timely Distribution Election Form was filed in respect of the Debenture, and only in the amount stated on the form.

   B. If a Distribution Election Form was timely filed, the Consummation Agent shall, upon surrender of the Debenture, make distribution only to the person or entity which filed the form unless such person or entity provides appropriate instructions (either notarized or with signature guarantee) directing that the distribution be made to another.

   C. Any other Debenture holders shall only be entitled to the Option A distribution (Pine Brook Stock).

   D. Except as provided under item 2 above, the Consummation Agent shall make distribution to or on the direction of the person or entity which surrenders the Debenture to the Consummation Agent.

   E. In all cases, the Debenture must be surrendered to the Consummation Agent to receive a distribution.

   You are notified that unless a debentureholder or other party in interest, within 20 days of the date of this notice as set forth below, files an objection to the Debenture Motion, specifically setting forth the grounds for the objection, with the United States Bankruptcy Court for the District of Oregon, 1001 SW Fifth Avenue, Portland, Oregon 97204 and serves a copy of Richard C. Josephson, Stoel Rives LLP, 900 SW Fifth Avenue, Suite 2300, Portland, Oregon 97204, attorneys for the Consummation Agent, the Consummation Agent will present to and the Bankruptcy Court may enter an order granting the Debenture Motion without further notice or a hearing. If an objection is timely filed and served, the Bankruptcy Court will schedule a hearing on the Debenture Motion. A copy of the motion is available for inspection and copying the offices of the Bankruptcy Court or from the Consummation Agent (213/617-2717).

3. Post-Confirmation Administrative Expenses. On or about March 20, 1996, the Consummation Agent filed the Consummation Agent's Budget for Post-Effective Date Administrative Expenses (the "Budget") setting forth the amounts that the Consummation Agent expects to be incurred for its fees, the fees and expenses of its counsel, counsel for the Debtor and counsel for the continuing Creditors' Committee and other administrative expenses to consummate the Plan of Reorganization.

   The Budget estimates total post-confirmation administrative expenses of $700,000, approximately $100,000 of which has already been incurred since confirmation of the Plan. Activities of the Consummation Agent, its counsel and other professionals employed in connection with the case are expected to include the resolution, through negotiation or litigation, of objections to disputed claims, analysis and, if economically justified, pursuit of preference and other avoidance claims; analysis and, if economically justified, pursuit of a claim against CIGNA to recover funds deposited by the Debtor for workers' compensation claims; implementation and monitoring of the escrow agreement with the Oregon Department of Environmental Quality with respect to the former landfill site operated by the Debtor's subsidiary, Riedel Waste Services, Inc., resolution of a proceeding before the U.S. Department of Labour seeking penalties for noncompliance with reporting requirements concerning the Debtor's former 401 (k) plan; litigation concerning the prepetition asset sale to Riedel Omni Rubber Products, Inc.; and general administrative matters, including effecting exchanges of debentures and stock under the terms of the Plan. A copy of the Budget is available from the Bankruptcy Court or by contacting the Consummation Agent (213/617-2717).

   specified in paragraph 2 of this notice and serves on counsel for the Consummation Agent at the address specified in paragraph 2 of this notice an objection to the Budget setting forth the specific grounds for the objection, the Consummation Agent will present to and the Bankruptcy Court may enter an order approving the Budget without further notice or a hearing. If an objection is timely filed, the Bankruptcy Court will schedule a hearing on the objection.

DATED: April 3, 1996

MURPHY, WEIR & BUTLER
A Professional Corporation

By:
Kenneth H. Brown
Attorneys for
Development Specialists, Inc.
as Consummation Agent

WORLD TRADE NEWS DIGEST

US warns HK on pirate traders

US trade officials have for the first time added Hong Kong to their list of countries allegedly not doing enough to protect copyrights and other intellectual property.

In an annual report to Congress on trade barriers, the office of the US Trade Representative said retailers of pirate software and music were operating so openly in Hong Kong that their locations were listed in guidebooks.

The 349-page report, published on Monday, outlined barriers in 42 countries plus Taiwan and Hong Kong.

The report said Hong Kong's intellectual property laws were among the world's best, "but a massive increase in pirate compact disc production in China [music, video and software] over the past two years has swamped and weakened local law enforcement efforts".

It said a group called the International Intellectual Property Alliance estimated 1995 losses due to piracy at $130m, leaving out business software losses.

"The US has urged the Hong Kong government at the most senior levels to crack down on hawkers and retailers and the criminal syndicates that supply them," the report said.

"Vigorous action by Hong Kong authorities to stop the financing of pirate activities in China by individuals based in Hong Kong is an important and necessary step, but one which Hong Kong has yet to take," it added.

US Trade Representative Mickey Kantor will use the report – which said the US trade surplus with Hong Kong last year totalled $3.9bn, $2.2bn more than in 1994 – in deciding whether to target practices by individual countries for action under US trade laws.

Reuter, Washington

National Power in Pakistan

National Power of the UK yesterday completed the first phase of buying out the 1,600MW Kot Addu power plant in Southern Punjab, one of Pakistan's largest state-owned power generation plants.

The deal marks an important success for the government of Ms Benazir Bhutto, the Pakistani prime minister, which has sought to revive its troubled privatisation programme. Earlier this year, the government failed to privatise United Bank, the second largest bank. National Power had offered to buy a 26 per cent share of the plant at $215m and assume responsibility for paying off an additional $756m in debt.

Farhan Bokhari in Islamabad, Pakistan

French shipyard in US contract

Chantiers de l'Atlantique, the shipyard owned by GEC-Alsthom, said yesterday it had signed a letter of intent with Renaissance Cruises of the US to build two 300-cabin cruise ships with an option for a third.

The contract, if confirmed by the end of June, would be worth $500m for all three ships, with the first to be delivered in 1998. The St Nazaire-based yard, which specialises in cruise ships and gas carriers, has work in hand this year, but needs the Renaissance deal to keep its 4,000 workforce occupied next year.

David Buchan, Paris

Airbus sets up large jet division

Airbus Industrie, the European consortium, has created a new large aircraft division as part of its plan to compete with Boeing of the US in the 500-seat jet market.

Airbus hopes to begin developing a 550-seat aircraft, the A3XX, before the end of next year. It wants the aircraft to enter service by 2003.

Boeing expects to start work on the 747-600X, which will carry over 500 passengers, by the end of 1996. Airbus has appointed Mr Jürgen Thomas, a senior Dasa executive, to head the new division.

Michael Skapinker, London

Russia blocks controls on arms exports

By Jimmy Burns in London

Russia was yesterday blocking international attempts to consolidate a new post-Cold War export regime governing defence related goods.

Senior officials representing 31 western and former communist countries began two days of talks aimed at co-ordinating their controls on the export of conventional arms and sensitive dual-use equipment.

But according to western European and US officials, the Russian delegation was opposing the regime because it feared their country had most to lose from it in terms of defence exports.

The Vienna meeting is the first plenary session to take place under the so-called Wassenaar arrangement, which last year replaced Cocom, the control regime used during the Cold War to prevent the transfer of sensitive military technology to the Soviet Union, China, and their allies.

After protracted negotiations, participants in the Wassenaar arrangement, including Russia, agreed to a limited exchange information on an agreed list of controlled dual-use goods.

It was also agreed that participants including non-arms exporters such as Japan could raise specific issues of concern relating to conventional arms exports.

The arrangement was broadly welcomed as a step towards greater international responsibility and transparency in controlling arms exports to suspect "rogue" states. It was also thought that clearer guidelines would ensure a more level playing field for national defence industries.

But Russia's participation in the new arrangement has proved problematic as the country's defence officials fear their interests are being subordinated to those of Nato under the guise of the new regime.

Western officials admit that the new regime will mainly bring about restrictions on exports to countries such as Iran and North Korea and impede exports of items on which the Russian defence industry is focusing its export drive as a good source of hard currency.

G7 agreement at Lille conference after intense discussions seen as setback for several participants

Labour standards 'must be included in growth strategy'

By Robert Taylor in Lille

The Group of Seven leading industrialised nations yesterday agreed that the enhancement of core labour standards was necessary in any global strategy for economic growth.

The agreed communiqué ending the G7 economy and labour ministers' two-day conference in Lille in northern France was only reached after many hours of intense behind-the-scenes discussion and was seen as a setback for the views of several participants, notably Japan, Germany, the UK and Canada.

They had expressed opposition to any reference to labour standards in the document emerging from the conference.

But the UK government said last night the outcome could have been much worse from its point of view. Initially France and the US had wanted the communiqué to say G7 should insist the labour standards issue should be on the agenda at the December meeting in Singapore of the World Trade Organisation. But this proposal was removed over yesterday's lunch after the UK and others had expressed strong opposition to it.

Robert Reich: US to press hard on jobs issue at WTO

France, which had called the conference, put the labour standards issue at the forefront of the meeting and, along with the US, insisted on a clear commitment.

The G7 comprises the US, Japan, Germany, France, Italy, the UK and Canada.

Mr Robert Reich, US labour secretary, made clear yesterday that the US intends to press hard on the issue in the WTO. He said it was "a proper forum for a discussion" of labour standards that cover trade union freedoms, prevent the employment of children and ban forced labour.

The communiqué said: "We note the importance of enhancing core labour standards around the world and examining the links between these standards and international trade in appropriate fora."

Ministers awaited "with interest the completion of studies currently under way at the Organisation for Economic Co-operation and Development and the International Labour Organisation on the social dimensions of international trade".

However, there was also a strong commitment, backed unanimously by all the governments at the conference, to fiscal discipline in the running of their economic policies.

"The G7 countries must endeavour to control public spending more effectively in order to reduce their deficits," said the communiqué. "Reducing deficits will help to create a more favourable climate for private investment and income growth against a background of moderate interest rates."

Other proposals which won general agreement included:

- A "modernisation" of the "regulatory framework" in goods and services.
- The active encouragement of small and medium-sized enterprises with venture capital to help in new technologies.
- The need to promote policies to ensure "the security of employability over individuals' working lives".
- Changes in the tax and benefits system "to make work pay particularly for the least well-off"; in addition, cuts in non-wage labour costs "where appropriate".
- Policies targeted on helping the long-term unemployed and to integrate young job seekers into regular jobs.

See editorial comment

Most new US jobs in 'high-wage sectors'

By Robert Taylor in Lille

The US economy may have generated up to 9m new jobs over the past three years – nearly 70 per cent in high-wage occupations, according to a study prepared for President Bill Clinton by his Council of Economic Advisers.

US delegates at the Group of Seven leading industrialised countries' employment summit surprised European counterparts with evidence indicating extraordinary success in the US labour market. The report, presented to finance and labour ministers gathered in Lille, conflicted with a widespread belief among continental European countries, which had felt many new US jobs were low-paid, low-skilled and insecure.

The study, to be published in early summer, says:

- While provisional estimates indicate that 8.4m jobs have been created since January 1993, the Council of Economic Advisers believes the true figure will be around 9m.
- The vast majority of the jobs are paying wages that are 14-17 per cent higher than the US national average.

Ron Brown: success due to wide range of policies

- As many as 60 per cent of the new jobs have been in managerial and professional occupations, mainly in the services sector. In the last year, 54 per cent of the net employment growth occurred in high-wage industries. "These are not hamburger flipper jobs but require high educational qualifications," said Mr Joe Stiglitz, chairman of the Council of Economic Advisers.
- Most of the new jobs are full-time, not part-time, averaging around 37 hours a week, with 93 per cent of them in the private sector.
- The fastest job growth has been among medium-sized companies employing an average of 500 people. Up to 2m new enterprises have been created in the past three years.

"These facts dispel the myths Europeans have about our labour market," said Mr Stiglitz. "The idea that many people have that the new US jobs are low-quality and low-paid is just plain wrong."

Mr Ron Brown, US commerce secretary, said the US success was due to a wide range of policies beyond those involving the labour market. "Our successful programme for reducing the federal deficit has made more funds available in capital markets and supported high levels of investment and strong productivity growth, all of which are essential in order to create good jobs," he said.

Mubarak, Assad in talks on Gaza curb

By James Whittington in Cairo

Egypt's President Hosni Mubarak made an unexpected trip to Damascus yesterday, for talks with President Hafiz al-Assad, his Syrian counterpart, amid heightened tension between Israel and its Arab neighbours over Israel's curbs on the movement of Palestinians from Gaza and the West Bank.

Egypt and other Arab countries have expressed irritation at Israel's measures against the Palestinians following a wave of suicide bombings by Islamic militants last month.

Mr Esmat Abdel-Meguid, secretary-general of the Arab League, yesterday added his voice to the complaints: "The question of collective punishment is regrettable: this can destroy the peace process," he said in Cairo.

Officials said Mr Mubarak and Mr Assad would discuss the Syrian-Israeli peace talks, suspended last month after the suicide bombings. The leaders were expected to discuss alarming reports in the Arab press that radioactive waste has leaked from Israel's nuclear reactor at Dimona in the Negev Desert.

Mr Yossi Sarid, Israel's environment minister, has denied the Dimona nuclear complex posed any hazard, but Egyptian monitors have been sent to the Israeli border to check radiation levels. Yesterday, the Arab League called a meeting of its permanent representatives for next week to discuss the issue.

- Palestinian President Yassir Arafat yesterday slammed a proposal by Israel's Prime Minister Shimon Peres for a referendum in Israel on a future permanent peace deal with the PLO, Reuter reports from Gaza.

"This is completely against what has been agreed," Mr Arafat said in Gaza. Mr Peres' call came on Monday on a flight to the Arab state of Oman, effectively removing a contentious issue from debate in Israel less than two months before the May 29 elections.

How not to impress the government of Turkmenistan

Sander Thoenes on the pitfalls awaiting foreign companies hoping to do business in the gas-rich central Asian country

Mr Carlos Bulgheroni thought he knew how to impress the impoverished government of Turkmenistan. Just outside Ashkhabad, the capital, where most people earn less than $20 a month, the Argentine oil and gas magnate fêted government officials on caviar and escorted them around the green lawns of his lavish company compound. This would tell the Turkmen that they were dealing with a serious investor, he thought.

The Turkmen were more than impressed; they concluded Mr Bulgheroni's company, Bridas, was getting more than its fair share in two joint ventures with the government.

"When the contract was first signed, it was not profitable for both sides," said Mr Amangeldy Esenov, minister of oil and gas. "Say you have a jacket, and I don't. We should both have a jacket. If I had been able to foresee the future three years ago, I would have signed a different contract, a civilised contract that would be profitable for both."

To persuade Mr Bulgheroni to help correct Turkmenistan's mistake, Mr Esenov blocked Bridas's oil exports last autumn. He also snubbed Mr Bulgheroni's grandiose plans for a gas pipeline through Afghanistan to Pakistan, supporting a similar proposal from US competitor Unocal instead.

Mr Bulgheroni said he invested $400m and would like to invest another $1.5bn in a gas field said to hold 800bn cubic metres of gas.

Now he is withholding new investments and is considering asking the Paris-based International Chamber of Commerce to arbitrate. "If you don't have a rule of law," he said, "how can we work here?"

Privately-owned Bridas is by far the largest investor in Turkmenistan. Although the country boasts 13 trillion cu m in gas reserves, the bigger international companies have stayed away. The second largest investor, Dutch-based Larmag, twice saw its exports blocked in the past two years when the government demanded a larger share of its production.

Mr Lars-Erik Magnusson, Larmag's president, gave in but warned Turkmenistan that his project would be dead if it suffered a third interruption.

"The new potential investors in Turkmenistan look to see how the current investors are faring to determine whether to invest or not," Mr Magnusson said. "Our history in Turkmenistan has been brief and not particularly smooth."

The Turkmen accuse Larmag and Bridas of breaking promises to invest in new wells. Western businessmen in Turkmenistan say that is true, but do not believe the government's solution has any hope of working: Mr Esenov says he has prepared an oil and gas law that would force companies that invest less than they have pledged to pay the difference to the government.

Another barrier to investment is the lack of a reliable export route for either oil or gas. Plans for construction of pipelines to Pakistan, China and Europe are futuristic at best.

The Russian gas monopoly Gazprom has cancelled Turkmenistan's access to Soviet-era pipelines to the west and controls 46 per cent of a joint venture for gas exports from the republic. Gazprom and Unocal are negotiating a pipeline to Pakistan, but some western gas experts doubt that Gazprom, notoriously jealous about control of gas projects in the region, is likely to support one that would break its grip on the country.

Mr Bulgheroni appears not to be deterred. But many visitors at a recent oil and gas conference in Ashkhabad concluded that he was in trouble when they witnessed a brief visit by Mr Saparmurat Niyazov, the president of Turkmenistan. Mr Niyazov descended the stairs arm in arm with the chairman of Gazprom and the president of Unocal. Mr Bulgheroni had to make do with a handshake.

Indian opinion poll forecasts hung parliament

By Mark Nicholson in New Delhi

India's first big pre-election opinion poll has forecast a hung parliament, with Congress remaining the biggest single party after the April-May vote. The poll suggests the opposition Hindu nationalist Bharatiya Janata party would make solid gains, but be unable to form a government.

The poll found voters more concerned about employment and inflation than corruption as an issue, despite the recent political payments scandal which resulted in charges against 25 politicians from most main parties, including seven Congress ministers.

Using interviews with 15,450 respondents in 83 constituencies by Outlook magazine and Dun and Bradstreet Marketing Research, the poll suggested Congress would win 191 seats in the 545-seat Lok Sabha assembly, down from the 243 it held in the last parliament.

The BJP would gain 170, up from 120. The poll, conducted in mid-March, indicated the Left-Front/National Front coalition of Marxist, leftist and caste-based "social justice" parties would win 139 seats.

The results suggest Congress best placed after the elections to form a coalition government, most likely with the Left-Front/National Front combine or some of its factions. Congress missed an outright majority in 1991 but won a governing majority through later defections and alliances.

Some 19 per cent of respondents said employment was the election's core issue; 13 per cent chose inflation. Only 8 per cent picked corruption, equal in the poll with concern over water shortages.

Asked if respondents favoured or opposed the opening of India's economy to foreign investment, the poll found 44 per cent thought the move "right" and 39 per cent "wrong". Some 30 per cent of respondents were still undecided.

Pollsters said the election appeared "devoid of any major issue", but much could turn on events during the campaign. To mute the possible effects of the corruption affair, the Congress party has forbidden its seven charged ex-ministers from running under its colours, though some plan to stand as independents. Congress faces a setback in the southern state of Tamil Nadu, where it hoped to win 28 seats through an alliance with the regional AIADMK party, headed by Ms J. Jayalalitha, the chief minister.

Some MPs critical of Ms Jayalalitha have allied with the opposition DMK party. The move threatens to split the Congress vote in this key state, and the row may prompt the resignations from the party of Mr P. Chidambaram and Mr M. Arunachalam, two ministers from Tamil Nadu constituencies.

Both were said by Congress officials to be considering their future. The loss of Mr Chidambaram, commerce minister, and one of Congress' most vigorous advocates of economic reform, would be a blow to the party's national image.

Congress uncertainty in critical southern constituencies was also exemplified yesterday by news that Mr P V Narasimha Rao, the prime minister, would hedge his bets by standing for a seat in eastern Orissa. He is apparently uncertain of support in his present constituency in southern Andhra Pradesh.

KL slaps curbs on speculative stock

By Peter Montagnon, Asia Editor

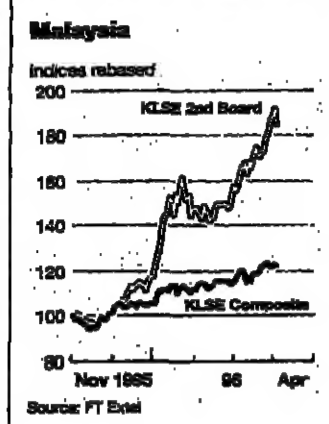
The Kuala Lumpur stock exchange yesterday imposed trading restrictions on Super Enterprise, a manufacturer of labels and stickers, in an effort to damp a surge of speculative buying of small companies which has seen prices double since last November.

The buying is a further sign of how excess liquidity is stoking up Malaysia's overheated economy, regional economists said.

"There is a lot of liquidity in the system. Bank Negara [the central bank] has still got to get to grips with that," said Mr Neil Sakar, of Crosby Securities, in Singapore.

Small companies have been the main beneficiaries of demand from retail investors dissatisfied with deposit rates available from banks. The main market index, which includes big blue chip companies, has risen less than 20 per cent this year.

A dealer at J M Sassoon in Kuala Lumpur said small stocks had attracted local speculators because the small number of shares in issue to the public makes prices easy to manipulate.



Source: FT Extel

Yesterday's action involved making Super Enterprise a "designated" stock. This means buyers must produce cash with their order and sellers must deliver shares to a stockbroker before they can be sold, preventing quick in-and-out transactions with no outlay of cash.

On Monday Super Enterprise, which had earlier announced its intention to move into rice distribution, jumped 14 per cent to M$28.25 ($11.17) but following yesterday's action the shares slid M$9.45 to be quoted at M$18.80 in late trading. The Second Board index of smaller capitalisation stocks fell some 4 per cent.

This is the first time the authorities have "designated" an individual stock since September 1994, but they have recently reprimanded a number of smaller companies for being late in publishing results. Some have also been fined for infringement of listing requirements.

"There is going to be some pain later on in stocks which are rising without any reason," said Mr David Bates, of Asia Equity, in London. Some local investors were using profits from trading smaller companies to buy Malaysia's new unit trusts which focus on more liquid larger companies. The development of such collective investment instruments could underpin the market in the longer term, he added.

Japan railway sell-off in view

By Gerard Baker in Tokyo

The Japanese government appears ready to approve a long-delayed second phase of the listing of shares in the country's privatised national railway network. The Transport Ministry said yesterday it was anxious to press ahead as quickly as possible with a public offering of shares in West Japan Railway Company (JR West).

Officials would not give a date for the proposed sale but Japanese newspapers reported that an application for the listing could come as early as the middle of this month. The offer itself is expected to take place by the autumn, with the shares to be listed on both the Tokyo and Osaka stock exchanges.

JR West is the second largest railway company in Japan, running services in the west of the densely populated main island of Honshu, including part of the *shinkansen* bullet train. It has an annual turnover of about Y1,000bn ($9.4bn) and assets of more than Y2,000bn.

Its shares were initially scheduled to have been offered in 1994 and again in 1995, but the weakness of the stock market in the last few years and the failure of other privatisations have repeatedly postponed the plans. In October 1994 the government sold part of its stake in Japan Tobacco and Japan Telecom, issues which both flopped badly.

But the recovery in share prices in the last few months now seems to have emboldened the authorities and have brightened the prospects for the flotation. On Monday the Nikkei 225 index of leading stocks reached a four-year high as optimism about the country's economic prospects continued to grow.

The former Japan National Railways (JNR) was broken up in 1987. The three main companies that inherited the business, JR East, JR Central and JR West, were intended to float soon afterwards. But in the event only the first tranche of shares in the largest company, JR East, was issued in 1993.

The government is also under growing financial pressure to sell the shares quickly. The remainder of the stock continues to be held by the JNR Settlement Corporation, which will make the ultimate decision on the timing of the next offering in consultation with the government.

In addition to the JNR companies' stock, the corporation was also handed their enormous accumulated debt. The plan was to repay it through share offerings and sales of land formerly owned by JNR. But the collapse of land prices in the last five years has prevented any substantial property sales, while the debt has continued to rise. On Monday the corporation announced that its total debt had now risen to over Y27,000bn, more than Y2,000bn greater than when the corporation was established nine years ago.

The JR West sale is expected to raise about Y800bn from the sale of more than half its 2m shares. If successful, the flotation is likely to be followed soon after by the second tranche of shares in JR East and later issues by one or two other JR companies.

Ministry of Financial Crisis

Once the élite of the élite, Japan's finance ministry is a near-public enemy, writes Michiyo Nakamoto

For the young graduates who joined Japan's ministry of finance in its annual intake this week, the start of their careers is likely to have aroused more mixed feelings than is usual among new bureaucrats at the élite institution.

The ministry's solemn buildings have been a regular feature on national television in recent months as public outrage over the authorities' handling of a series of crises in the financial sector has made the ministry virtually a public enemy.

In an effort to deflect widespread criticism, Mr Wataru Kubo, finance minister, yesterday announced that the ministry would set up a panel to study how it can improve its performance, including possible structural reforms.

The decision comes after an initiative by the ruling coalition to look into reforms in response to unprecedented public criticism that has shaken the government and for a while brought parliamentary business to a standstill. The moves highlight the extent to which the standing of the proud ministry has fallen in the eyes of the public.

For as long as many Japanese can remember, joining the MoF was regarded as the ultimate sign of accomplishment and a privilege reserved for only the best and the brightest in Japan's rank-conscious society.

When Mr Toshinori Doi was contemplating life after studying as a law student at Tokyo University he felt drawn to the ministry.

"It seemed the natural thing to do" for many of the élite students of the university's prestigious law department, he says – "more natural than going into business".


Kubo: possible reform

But in the midst of the scathing public criticism in recent months, the prestige of the finance mandarins has taken a blow. As a housewife wrote in a letter to the Nihon Keizai Shimbun business newspaper: "I used to think that the bureaucrats in the finance ministry and other ministries were people who devoted their talents and worked very hard for the sake of the country. What has led to the downfall of very capable bureaucrats who once joined the ministry full of idealism is the finance ministry's power. If it is impossible to replace all MoF employees then there is nothing else but to break up the ministry and reconstruct it."

The degree of public hostility towards the MoF is in contrast to the respect, bordering on awe, with which the Japanese had previously held the ministry mandarins. Much of that stemmed from a recognition of the power the ministry wields in Japanese public life – it controls the budget, taxation, the banking and securities industries, and customs. But it was also a reflection of admiration for the intellectual ability of its senior officials.

MoF bureaucrats are, as a rule, graduates of just a handful of élite universities. Last year, of the 20 new recruits 18 came from Tokyo University, which this year accounts for 17 out of 22. What is more, most are graduates of Tokyo University's law department.

"The best students go to Tokyo University, and the best among those go to the law department. Within the law department, the top students aim for the finance ministry since it is the most powerful. And those who didn't study go to Nippon Steel," says a MoF official.

What matters is not just the prestige that comes with the job, but the power. Becoming a bureaucrat is one of the few routes to instant authority and respect that is available to ambitious young Japanese. And the authority accorded finance bureaucrats is unparalleled.

In a country where seniority plays a big part in determining rank, the deference shown MoF officials, no matter how young, is a conspicuous exception to the rule.

But as revelations about the ministry's failure to act on the housing loan crisis have unfolded the pendulum has swung in the opposite direction. MoF bureaucrats have recently been criticised almost daily in the press for being arrogant, lacking a sense of responsibility and being out of touch.

Since it is clear that there was negligence on the part of bureaucrats in their handling of the country's troubled housing loan companies – into which the government will have to pour at least Y685bn ($6.4bn) – they should be made to take legal responsibility, one disgruntled Japanese lawyer maintained in a letter to the Asahi Shimbun newspaper.

The daily public denunciation has affected morale. "Several years ago we were applauded as if we were almighty, but now we are criticised and it is not such an agreeable environment any more," says Mr Doi.

"The work is hard, the pay is low and on top of that you are harshly criticised by the public," agrees another MoF bureaucrat.

"I would not recommend joining the MoF to my son," says a colleague. "There are a lot of people who are slaves to their work or are used as the legmen for Dietmen."

While few people believe that a break-up of the ministry is imminent, there is enough concern for the medium term to encourage the ambitious to seek their future elsewhere.

"MoF bureaucrats know that, and that is why five of them are already planning to run in the next elections. They know that when their turn comes up to become a bureau director, the MoF will no longer exist in its current form," says Mr Takayoshi Miyagawa, head of the Centre for Political Public Relations, a private research institute.

Vietnam cracks down on drinking

By Jeremy Grant in Hanoi

Vietnamese reaching for the bottle have been told to think before they drink under a new campaign designed to stamp out "excessive boozing" and improve public morals.

In a letter to ministers and provincial authorities, Mr Vo Van Kiet, prime minister, has urged people not to get drunk in public and to limit drinking to special occasions such as weddings and funerals.

He added that drinking had become "an unacceptable social evil", a reference to a campaign launched by the ruling Communist party in February to clamp down on prostitution, gambling, karaoke and other "negative influences". As part of the drive, Hanoi has ordered the removal of foreign brand names, particularly those of foreign drinks, from signboards.

Sales of alcoholic drinks have shot up in the last five years, since economic reforms known as *doi moi* helped boost incomes, particularly in the cities. Beer is the most popular tipple, followed closely by cognac and whisky. At least five foreign brewers are active in Vietnam, and Carlsberg, Tiger, Heineken, Tuborg and Guinness are all available.

However, the best selling beer is *bia hoi*, a sweet, locally brewed draught ale consumed in beer gardens in the main cities, syphoned through plastic pipes from kegs and using a brewing method originally introduced to Vietnam by the Czechs in the 1960s.

Weddings are incomplete without the consumption of vast amounts of cognac, often drunk during meals instead of beer. Foreign investors at morning meetings with Vietnamese officials often find that they are offered warm cans of beer as an alternative to bitter green tea.

Mr Kiet said the government was considering introducing a law prohibiting civil servants and soldiers from drinking during working hours.

A bottle of Hennessy cognac bought in a restaurant costs about $40, almost the entire monthly wage of a low-ranking government official. Foreign drinks company officials say sales are booming, although much of the tipple is smuggled from Thailand.

But few Vietnamese appear yet able to match Thai drinking. A foreign drinks company official in Ho Chi Minh City said 550,000 cases of Johnnie Walker Black Label were sold in Thailand in 1995, against a just 25,000 in Vietnam, which has a larger population.

CONTRACTS & TENDERS

ASIA-PACIFIC NEWS DIGEST

Thai foreign minister to quit

Mr Kasem Kasemsri, Thailand's foreign minister, plans to resign after the conclusion of a censure debate in parliament expected within a month, the official Radio Thailand reported yesterday. Mr Kasem, a former permanent secretary at the foreign ministry, has indicated for several months he is unhappy in the position, where he has been attacked by members of his own Nam Thai party and overshadowed internationally by other leaders in the seven-party coalition government of Mr Banharn Silpa-archa, prime minister.

Mr Amnuay Viravan, deputy prime minister and Nam Thai party leader, appointed Mr Kasem to the post even though he failed to win a seat in parliament in last July's election. Some Nam Thai MPs have argued the post should go to an elected member. Mr Kasem is unlikely to be a target of the opposition during the censure debate, which the government is expected to win easily. Mr Kasem has stayed out of the spotlight partly because delicate trips to Burma, Vietnam, China and the border with Malaysia have been undertaken by Gen Chavalit Yongchaiyudh, defence minister. *Ted Bardacke, Bangkok*

China seeks to win HK opinion

China yesterday launched a public relations campaign in Hong Kong, inviting proposals on how to ensure a smooth transition in the territory which will return to Chinese sovereignty next year. In a conciliatory move, which comes amid increased concerns about Beijing's stance towards Hong Kong, the China-appointed committee which will oversee the handover placed full-page advertisements in several Hong Kong newspapers. The advertisements said the Preparatory Committee welcomed proposals for the transition.

The offer comes after upset over China's plans to replace Hong Kong's elected Legislative Council and demands that senior government officials support a provisional legislature. Democratic politicians and Britain insist the existing legislature should serve its full four-year term.

Yesterday's advertisements coincided with reports in the pro-Beijing local press that Chinese troops stationed in Hong Kong after the handover will be barred from engaging in business, investing in shares, and gambling. The reports, carried in the Wen Wei Po newspaper, reflected Beijing's desire to allay concerns about interference in local affairs. *John Ridding, Hong Kong*

200 boat people to be freed

Hong Kong is today to free more than 200 Vietnamese boat people, following a ruling last week by the Privy Council in London that prolonged detention of some of the 19,000 Vietnamese asylum seekers in the territory was illegal. Mr Peter Lai, Hong Kong government's security secretary, said that in addition to the immediate release of 214 Vietnamese, a further 40 cases were under consideration. The cases concern those deemed by Vietnam not to be Vietnamese nationals.

The government is committed to returning the Vietnamese boat people before the territory returns to Chinese sovereignty next year. Mr Lai played down the potential problems for the repatriation programme. "This should not give rise to false hopes," he said.

He also announced plans for legislation to thwart court challenges to repatriation procedures by human rights activists. Those to be freed today receive no compensation for their detention and will not be granted residents' rights in Hong Kong. However, they will be allowed to work. Mr Lai said efforts would be made to repatriate them to Vietnam and also to return them to Taiwan, where many claimed nationality. *John Ridding, Hong Kong*

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Republicans seek political capital out of NY case

Drug ruling by judge stirs critics of Clinton

By Jurek Martin, US Editor, in Washington

A federal judge's decision in New York this week to reverse his own ruling in a narcotics case may have temporarily cooled a particularly hot controversy, but the role of the independent US judiciary is likely to remain a bone of political contention throughout this election year.

Judge Harold Baer, appointed to the bench by President Bill Clinton two years ago, had originally ruled in January that the New York police did not have "probable cause" to search a car found to contain 80lbs of cocaine and marijuana. So, he declared the drug haul inadmissible evidence in the subsequent prosecution.

That brought him much criticism, on the grounds that he was typical of the sort of anti-police, soft-on-crime liberal that the president was intent on foisting on the country.

Senator Bob Dole, the presumptive Republican presidential nominee, demanded that the judge be impeached, the only legal way to force the removal of members of the federal judiciary, who are appointed for life.

The White House was thoroughly alarmed that the president's tough stance against crime might be undermined by a Republican use of Judge Baer as the "Willie Horton" of the 1996 campaign. This refers to effective Republican commercials eight years ago citing the case of a rapist pardoned by Mr *Michael Dukakis*, then the Democratic presidential candidate, when he was governor of Massachusetts.

So, the White House called Judge Baer's original ruling "grievously wrong." But it said the proper remedy was a challenge in court, which it duly instituted. The judge responded on Monday, reversing his ruling and apologising for uncomplimentary remarks he had made about police brutality and corruption.

But the administration also went on the offensive against its critics. Mr Jack Quinn, White House legal counsel, used the Wall *Street Journal's* editorial pages last week to argue that the record on crime of conservative judges appointed by Presidents Reagan and Bush, both Republicans, was also mixed.

Appointments to the federal bench, perhaps the most important acts of domestic patronage accorded to a US president, are perennially controversial, most notably whenever a new justice is nominated to the Supreme Court.

"Impeach Earl Warren" bumper stickers were commonplace 40 years ago when the then Chief Justice, nominated by President Dwight Eisenhower, was setting precedents on desegregation and civil rights. Judge Frank Johnson of Alabama was similarly attacked for having rigorously applied the new line at state level.

This time, the Republican assault, given strong voice by then vice-president Dan Quayle in the 1992 election, is partly derived from the fact that trial lawyers have become big financial contributors to the Democratic Party and to Mr Clinton, himself a lawyer.

But there is also a strong ideological tinge to the political debate, beyond Mr Dole's conventional promise to name only strong conservatives to the bench. Mr Pat Buchanan, the right-wing pundit and presidential contender, would require that all judges certify their opposition to abortion and be subject to removal by *public petition. He has also* directed savage condemnations at Mr Clinton's two appointees to the Supreme Court, Justices Ruth Bader Ginsburg and Stephen Breyer.

The irony is that Mr Clinton's judicial appointments, on most objective assessments, have not been very liberal. About 40 per cent of the 53 judges he named last year were former federal prosecutors, generally tough on criminals, while the American Bar Association, no hotbed of liberals, has found his appointees more "qualified" than those of his three predecessors as president.

But one exception can make a mess of any rule – as the case before Judge Baer has demonstrated.

US teen pregnancy rate high

The US has the highest rate of teenage pregnancies and births among the developed nations, according to a study reported yesterday by the Journal of the American Medical Association, AFP reports from Washington.

"Despite similar rates of sexual experience, rates of adolescent pregnancies and births are higher in the US than in other developed countries," said the study.

"An estimated 95 per cent of pregnancies among teenagers are unintended," it added.

A team from the Centers for Disease Control and Prevention, in Atlanta, Georgia, studied the number of pregnancies, births and abortions among teenagers.

The report said that the pregnancy rates among 15- to 19-year-olds had remained fairly stable from 1980 to 1985, but had increased by 9 per cent during the last half of the decade.

The rate reached 95.9 pregnancies, per 1,000 girls 15 to 19 years old, by 1990. Birth rates among girls 15 to 19 years old declined by 4 per cent in 1980-85, but increased by 18 per cent in 1985-90 reaching 59.9 births per 1,000 girls 15 to 19 years old in 1990.

Rates of abortions among girls 15 to 19 years old remained stable during the 1980s, with 35.8 per 1,000 girls in that age range in 1980 and 36 abortions per 1,000 girls in 1990.

Caribbean cold shoulder for Cuba trade

By Pascal Fletcher in Havana

The Caribbean Export Development Agency sent its first trade mission to Cuba this week, but several companies in the region chose to stay away, apparently fearful of recent US legislation aimed at discouraging foreign trade with and investment in the island.

The agency, which receives European Union funding and represents the English-speaking Caribbean Community (Caricom) plus the Dominican Republic and Haiti, had hoped to bring executives from more than 25 companies on the three-day Cuba mission that started on Monday. In the end, 14 companies came, mostly from Trinidad and Tobago.

Organisers blamed the lower participation on US legislation, introduced on March 12, which tightens the long-standing US economic embargo against Cuba by threatening penalties against foreign companies which "traffic" in expropriated property on the island.

Much of such property used to be US-owned before it was nationalised by the communist administration of President Fidel Castro.

"When we planned this mission, we had a lot more companies coming," Mr Allan Marsh, marketing officer of the Caribbean Export Development Agency, said. "Many people were concerned because they trade directly with the US," he added.

Caribbean exporters who did not travel to Cuba seem to have feared that US authorities might retaliate against them by denying them entry visas to the US.

However, Mr Earle Baccus, executive director of the Caribbean Export Development Agency, said the presence of executives from 14 companies in Havana still reflected the region's interest in Cuba.

Those represented included the Port of Spain-based Republic Bank and the Trinidad and Tobago National Petroleum Marketing Company.

Cuban officials praised the "independence and resolution" of the Caribbean exporters who had made the trip. "Cuba's trade with the Caribbean is important and we hope it can grow further," said Mr Orlando Hernández, Cuban vice-minister for foreign trade.

Cuba's two-way trade with the Caribbean in 1995 totalled $300m, mostly Cuban imports of oil and oil products from Trinidad and Tobago and the Netherlands Antilles. Cuban exports included cement, steel and pharmaceuticals.

Separatist factor stalks Quebec

Bouchard tries to counter business uncertainty, writes **Bernard Simon**

Since Mr David Payne arrived in Montreal from *his native Yorkshire in* England 25 years ago, the former philosophy lecturer has learnt to speak French with a Québécois accent, married a Québécoise, and become an avid Quebec separatist.

So avid in fact, that Mr Payne – who gave up teaching to enter politics in the late 1970s – was recently named parliamentary secretary to Mr Lucien Bouchard, the province's premier, with special responsibility for drumming up foreign investment.

Attracting foreign capital is part of Mr Bouchard's plan to revive Quebec's economy. The province's unemployment rate is over 11 per cent, well above the national average, and it has so far made less progress in tackling its budget deficit than any of Canada's other nine provinces. Montreal's property market is in a deep slump.

Mr Bouchard convened a conference of business, labour and political leaders last month to try to forge a consensus on economic and social policy. He succeeded in securing their agreement for a law that would require the deficit to be eliminated within the next four years.

Public spending cuts have already begun to bite with the closure of hospitals and reduced welfare payments. Mr Bouchard has warned that every sector of Quebec society will be asked to make sacrifices in coming months.

But the clear message from *the business side at the conference* last month was that the biggest obstacle to a sustained recovery was political uncertainty.

Local and foreign investors have been especially rattled by the independence referendum last October, which the federalist camp won with a wafer-thin 50.6 per cent of the vote.

A Toronto economics consultant who sits on several Canadian pension fund boards says that all but one of the funds have sold their Quebec securities. A property financier adds that his company is gradually unloading its entire portfolio of *Quebec mortgages. Even some* Quebec institutions are diversifying risk by increasing their exposure outside the province.

Financial markets' worries are reflected in the yield on Quebec's long-term bonds, which is currently 0.64 percentage points above equivalent government of Canada securities, compared with 0.36 points for neighbouring Ontario.

Swapped white rose for fleur-de-lis: transplanted Yorkshireman David Payne finds Canadian province not difficult to sell

Long-term investors have several concerns. There is no guarantee that an independent Quebec would be automatically admitted to the North American free trade agreement, nor *that it would be able to retain* the Canadian dollar as its currency.

Events since the referendum have also raised fears of civil unrest should voters opt for independence in a future vote. Some anglophone and aboriginal groups have said they would push for Quebec itself to be partitioned.

However, as Mr Payne sees it, "one person's challenge is another's opportunity". He says that "in the eventuality of a Yes vote, [foreign companies] would need to do business. They would need a head office here anyway."

Quebec "is not difficult to sell", Mr Payne said last month, soon after a trip to Taiwan. He cited a group of Middle East investors, whom he said were thinking of setting up a regional airline in Montreal.

Mr Payne dismisses the suggestion that he is regarded as a turncoat in the English-speaking community, which overwhelmingly wants Quebec to remain part of Canada. "I've always been out to bat for English interests within the PQ," he says.

A number of established foreign investors have not allowed political uncertainty to stand in the way of expansion. GEC-Alsthom, the UK-French engineering group, recently bought a railway repair shop in Montreal. Sweden's Volvo and UK-based Henlys Group plan to expand a jointly-owned bus factory close to the US border.

Mr Bouchard, who took over as premier in January, has promised to put economic recovery ahead of a renewed drive for sovereignty. He has also said that he will not call another referendum until he is sure of winning. "The chronological priority is the economy, the fundamental priority is sovereignty," Mr Bouchard said earlier this week.

Most business people would prefer the premier to be less ambivalent. Mr Jean Monty, chief executive of Northern Telecom, the telecommunications equipment maker, called on Mr Bouchard to declare a "referendum moratorium" for at least the next seven or eight years. Mr Monty said that Nortel would continue to invest in the province, but that political uncertainty was discouraging some senior executives from moving to Quebec.

In the absence of an about-turn by Mr Bouchard, the investment mood is likely to hinge on the degree of economic and civic turmoil.

The need for stability was drummed home to Quebec leaders earlier this year when Mr Bouchard's predecessor, Mr Jacques Parizeau, met about 20 large UK investors in London. The clear message given to the premier, according to Mr Payne, was that "they didn't want to see upsets after a Yes vote".

Japan agrees exchange of ministry staff

By Michael Cassell, Business Correspondent

Britain's Department of Trade and Industry and Japan's Ministry of International Trade and Industry have agreed to exchange senior officials to help forge closer trading links between the two countries.

The ground-breaking initiative emerged yesterday, one week before Mr Ian Lang, UK trade and industry secretary, heads the largest ever British trade mission to Japan to try to narrow the UK-Japan trade gap.

Mr Lang described the decision to swap senior personnel as "an exciting new development" which represented the start of a programme of secondments between the two ministries.

The first Japanese recruit has been chosen and will arrive in London in June for a two-year stay. A senior DTI official, yet to be selected, will go to Tokyo later this year; others are expected to follow in both directions.

The British department already exchanges one or two officials each year with French and German ministries, but only for six-month periods. It is also believed to be the first time MITI has agreed to any programme involving the release of senior staff for such extended periods.

The MITI candidate is to be appointed to what is being described as a senior management position within the British department's automotive directorate, a manufacturing sector in which the UK wants to improve its trading performance with Japan. He will also participate in an analysis of the effectiveness of UK automotive trade associations.

The department's effort to boost exports to Japan already includes the appointment of nine export promoters who have been given responsibility for helping UK companies sell into the market. Last year, British exports to Japan rose by 26 per cent to £3.8bn ($5.77bn). But with Japanese exports to the UK increasing to £9.6bn, the visible trade deficit remained almost unchanged.

Mr Lang, who will visit MITI during his four-day visit to Japan, said yesterday that the government wanted to raise UK exports to Japan to £5bn by 1997-98. He believed there was potential to double that figure again over the next few years.

Mr Lang will be accompanied to Tokyo, Nagoya and Kobe by representatives of more than 100 UK businesses including engineering, consumer goods and healthcare companies.

During his visit, which will include a meeting with Mr Ryutaro Hashimoto, the prime minister, he will discuss the further opening of Japanese domestic markets, in particular those in the telecommunications sector.

He will also talk to Japanese companies planning to make further investments in the UK.

The British government's export support services are performing well, but improvements are needed to help tackle the nation's falling share of world trade, says the UK National Audit Office. Its examination of support and promotion machinery from Overseas Trade Services – operated by the Department of Trade and Industry and the Foreign Office – concludes that it generates "useful levels" of export business.

Last year, UK visible exports totalled £153bn ($232.6bn), an increase of £18bn on the previous year, although as in most European countries they continued to rise more slowly than world trade. The audit office calls for better targeting of effort on priority businesses and world markets, speedier response times to market information inquiries and improved performance monitoring of OTS services. More precise analysis of the cost of export support services – costing £190m in 1994-5 – is also recommended.

The beef crisis Cattle waste 'will produce more energy per tonne than chicken litter'

Cows proposed as fuel for power stations

By George Parker and Alison Maitland in London

Power stations could soon be burn cows in place of coal, if the government gives the go-ahead for an option being considered for the disposal of cattle waste made virtually worthless by the BSE crisis.

The rendering industry, which performs the task of boiling down cattle remains, faces devastation because it can no longer sell meat and bonemeal to farmers as animal food. The new restrictions, announced by the agriculture ministry on March 25 following revelations about a possible link between BSE and CJD, deprived the industry of its most saleable end product.

Ministers and the industry are working together to see whether rendered carcasses could be used as a novel fuel for power stations.

The UK Treasury is particularly anxious to put the rendering industry back on a sound footing in the longer term. On Monday it agreed to fund a £118m ($179.4m) aid package to the industry for the current financial year, to ensure it does not collapse.

Mrs Angela Browning, junior agriculture minister, said the rendering industry was vital in destroying waste animal products and that its long-term survival was essential. "Using the rendered material for fuel has potential, but it will need some work doing on it," she said. "It is obviously the sort of thing that needs to be investigated more closely."

Prosper De Mulder, the largest rendering company in the UK, confirmed it was looking at the possibility of burning surplus meat and bonemeal as fuel in power stations "to recover some value from it".

Mr Charles Reynolds, a director of Prosper De Mulder, said the company was talking to energy generators and also looking at the possibility of using the sand-like substance for in-house fuel. "It will produce more energy per tonne than chicken litter, which is used in power stations, and it has two-thirds the calorific value of coal," he said.

"Its use to generate heat and energy is the most obvious alternative route . . . it would be combusted at 900 degrees centigrade and that would kill everything. It would be totally sterile."

One drawback is that meat and bonemeal leave a residue after burning that amounts to 25 per cent of its input weight compared with only 8 per cent when coal is burned. In other words, there is higher wastage from the process.

The rendering industry is also considering a way of overcoming the shortage of incinerators to burn 15,000 older cattle which are expected to be destroyed each week rather than enter the food chain.

This would involve the animals being cut up and rendered down, with the fat residue used either for industrial purposes or recycled in the rendering process itself – being burned to produce steam.

The residual dry matter – which would consist of meat and bonemeal – could then be burned for power, industry officials suggest.

Minister mauled by critics in EU and his own party

By Caroline Southey in Brussels and James Harding in London

EU farm ministers were finding it hard yesterday to live up to the expectations of their political masters spelt out in Turin last weekend – to work collectively and in solidarity with Britain to put the bottom back into Europe's beef market.

For much of the day, frayed tempers got the better of ministers and their officials. One of the prime targets was Mr Douglas Hogg, the British agriculture minister. His biggest handicap was the lingering sense of anger still felt by many of his EU partners over his handling of the "mad cow" crisis in the run up to the council meeting.

"It has been a litany of disastrous errors; it was outrageous that the British government failed to inform anybody," an EU diplomat said. "If he gets anything out of this meeting it will be a miracle."

Mr Hogg infuriated Mr Franz Fischler, the agriculture commissioner, by not forewarning the European Commission of the impending crisis when the UK government knew last month that it would have to publish the scientific report linking BSE to Creutzfeldt-Jakob Disease in humans.

He appears to have deepened the ill-feeling by his failure to outline all the measures Britain was prepared to take to eradicate BSE. His diplomatic skills were also under attack. "If you are trying to convince people to believe in your programme, you need additional skills. Establish friendships, have a beer, a meal, talk about the kids or the weather. Relax. It is difficult for him to do this," the diplomat said.

In Westminster too, there has been little enthusiasm for the work of the agriculture minister. As yet, the recriminations in parliament continue to focus on the failure to consult the Commission and win European support.

"There has not yet been much criticism filtering back of his handling of the crisis in Luxembourg, but clearly he has not managed this very well in the last ten days," one rural Conservative MP said. Another senior Tory colleague said he was not surprised that Mr Hogg was being bruised by the beef crisis: "He was never seen as great material for the offices of state."

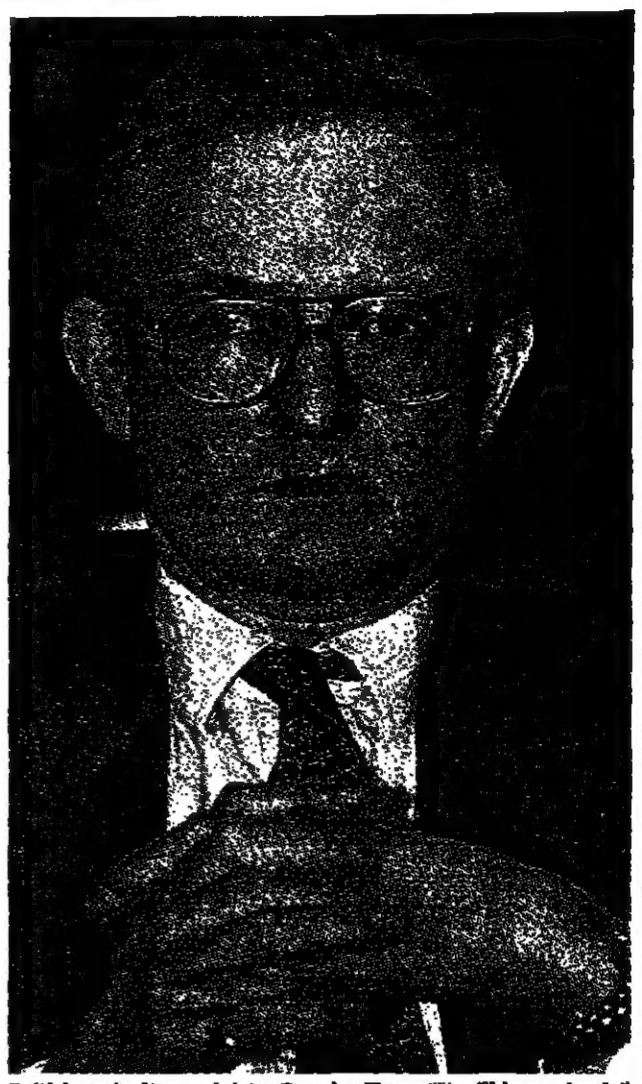
Supporters of Mr Hogg would rather blame his European counterparts. One said yesterday: "This is a European problem. They created the public hysteria by introducing a completely unwarranted ban. It is up to them to restore market confidence and instead they are treating the crisis in an obviously cynical way."

In Luxembourg, there were also some who were prepared to speak up for the beleaguered minister. "He was precise and to the point when he put Britain's case in the session on Monday. It was impressive," an EU official said. "But there are many who have scores they would like to settle with Britain so he is not getting the credit due to him."

For people such as these, there were others to blame for the malaise in the council's proceedings.

The Italian presidency was running a close second to Mr Hogg. Some EU diplomats felt the presidency had spent most of Monday trying to piece together broad political principles when most ministers were looking for a little more meat.

To add to the tensions, relations between the presidency and the Commission appeared in bad shape, reaching a low point after midnight on Monday when Mr Walter Luchetti, the Italian farm minister, made clear he would press ahead with drafting conclusions from the inconclusive meetings of the day - without Mr Franz Fischler, the EU Commissioner for agriculture. The Commissioner was not amused.



British agriculture minister Douglas Hogg: "It will be a miracle" if he gains anything from the EU meeting, said an official

Company loses asbestos appeal

By John Mason and Tim Burt

T&N, the motor components and engineering group, yesterday lost a legal challenge over asbestos-related illnesses when the Court of Appeal ruled that the company was liable to pay damages to victims who lived close to a former factory.

Although the court stressed that the action was not technically a test case, its ruling clears the way for future cases to be brought against the company. T&N said financial implications of the ruling for the company were "minimal" and it did not expect a wave of fresh cases. "We expect about 12 more cases to arise out of this, and we will vigorously contest any that are questionable."

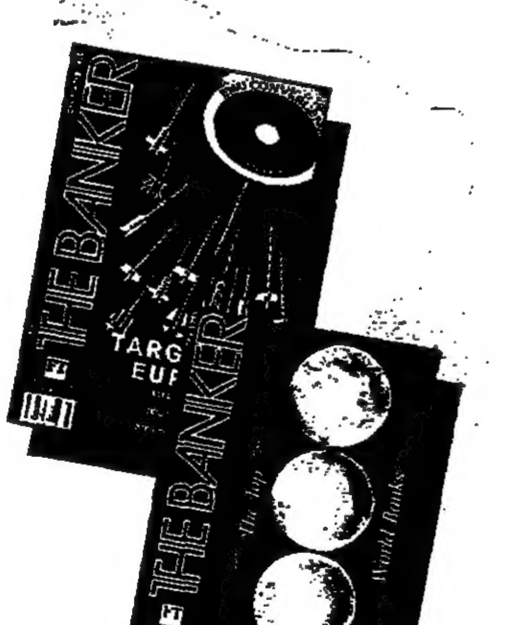
However, a lawyer for some of those with outstanding actions against T&N said T&N might remain vulnerable to future claims as other cases of mesothelioma – an asbestos-related cancer – come to light. Mesothelioma has an incubation period of up to 60 years, the lawyer added. The factory at the centre of the case, J.W. Roberts of Armley in northern England, closed in 1959.

The Court of Appeal upheld the ruling of a High Court judge that T&N was liable to pay £115,000 ($174,800) over two cases in which children contracted mesothelioma after playing near the Roberts factory.

An appeal judge said the High Court had heard evidence of children paying regular visits to the factory's loading bays. "During the course of them, children would jump up and down on the bales," the judge said. "Sometimes the bales would burst open."

T&N's interpretation of the facts had "verged on the ingenious", he said.

The company has spent about £300m in the past 10 years settling compensation claims, mainly in the US. Its shares initially fell 10p in London after news of the appeal decision, but recovered to end down 4p at 168p.



LEGAL NOTICES

COMMONWEALTH OF THE BAHAMAS
IN THE SUPREME COURT
Equity Side

BETWEEN

IN THE MATTER OF
MERIDIEN INTERNATIONAL
BANK LIMITED
(In Liquidation)

AND

IN THE MATTER OF
THE COMPANIES ACT 1992

NOTICE is hereby given that the Creditors of the above-named Company which is being wound up by the Court are required on or before the 29th June, 1996 to send their names and addresses and the particulars of their debts or claims and the names and addresses of their Attorneys (if any) to Mr. David P. Hamilton and/or Mrs. Alison J. Treco, the Official Liquidators of the said company at P.O. Box N-123, Nassau, Bahamas and if so required by Notice in writing from the said Official Liquidators or by their Attorneys or personally to come in and prove the said debts or claims at such time and place as shall be specified in such Notice or in default thereof they will be excluded from the benefit of any distribution made before such debts are proved.

Dated: this 26th day of March A.D., 1996.

McKINNEY, BANCROFT & HUGHES
Attorneys for the Official Liquidators
Meridien International Bank Limited
(In Liquidation)

Sparbanken Sverige (Swedbank)
Annual General Meeting
April 24, 1996 at 1pm
The Stockholm Globe Arena

Please notice that the proposed record day for payment of dividend is *Wednesday 29 April*.

Shareholders who wish to attend the meeting must be registered in the share register kept by Värdepapperscentralen VPC AB on *Friday April 12*, and must notify the Company Secretary, S-105 34 Stockholm, Sweden in writing or by telephoning Int +46-8-670 21 40 or faxing Int +46-8-790 27 77 of their intention no later than *3pm on Friday April 19, 1996*.

Sparbanken Sverige AB (publ)
(Swedbank)

Defence equipment Consortium will compete against Thyssen and Vickers for contract to work with Giat

GKN joins German bid for transport order

By Bernard Gray, Defence Correspondent

GKN, the defence and automotive group, has teamed with the German engineering companies Krauss Maffei, MaK/Rheinmetall, and Wegmann, to bid for the £3bn ($4.6bn) Anglo-Franco-German battlefield taxi programme. The consortium will compete against an entry by engineering groups Thyssen and Vickers to become the Anglo-German team which will work with France's nominated manufacturer Giat to produce the next generation of battlefield transport. A winner of the Anglo-German competition is likely to be selected by summer 1997, with a production contract to be awarded a year later. Production is likely to start early in the next century, with all competitors hoping that the project will replace tank and fighting vehicle production workloads which will by then be running down.

GKN will need work in its factory at Telford in the English Midlands from 1998 once its order for Warrior Armoured Fighting Vehicles for Kuwait is completed. Vickers will need further orders for factories in northern England around the year 2000 when it will have completed its order for Challenger 2 tanks for the British Army. Vickers is also pursuing a potential Challenger order from Saudi Arabia.

Britain decided to join the previously Franco-German battlefield taxi programme last month under the threat that it would be excluded from the new Franco-German arms agency if it did not participate in the European Multi-Role Armoured Vehicle programme (MRAV).

MRAV is seen by France and Germany as a way to rationalise the number of armoured vehicle makers in Europe by bringing them together in common programmes. Europe now manufactures three main battle tanks and armoured personnel carriers against one of each in the US.

The companies hope that their teaming arrangements will solidify into formal joint ventures which might then lead on to full mergers of the companies. However, that goal is some distance away.

In joining the MRAV programme, Britain has had to accept a detailed Franco-German specification for the vehicle. This runs counter to its recent policy of producing an outline requirement and then asking companies to submit their ideas to a competition.

The UK will be able to propose changes to the design, and will press for competition in as many areas as possible.

France and Germany originally threatened to exclude the UK from the agency last summer when Britain decided to order 2.5bn of US Apache tank-busting helicopters rather than buy the Franco-German Tiger. France has since cut the number of Tigers it intends to buy.

Cruise missiles contract for RAF is worth $990m

By Defence Correspondent

The Royal Air Force is looking for a cruise missile which can be fired from its fighters or bombers, fly at least 250km on a preplanned course, and then destroy a command centre, hardened aircraft shelter or radar station with pin-point accuracy.

The competition to supply the Conventionally-Armed Stand-Off Missile (Casom) has been one of the most keenly fought procurement projects of recent years. To fill the need, the Ministry of Defence has published a very simple outline specification, and then asked companies what they can supply for £650m ($990m). To save money, the ministry has also asked the companies how the programme might benefit from co-operation with other countries.

Casom will be a "silver bullet" weapon for the RAF: each missile will cost about $1m and will be used against the most valuable and well defended targets which will be used in situations where the risk of manned aircraft losses is unacceptably high. It is also points the way to the future direction of ground attack warfare, and companies are keen to show their prowess in the field. Seven teams have put in bids.

As with many other programmes, the cruise missile competition pitches proven US technology against European ideas in development. Politics also plays a roll because one of the bids is pivotal to the consolidation of the European missiles industry.

Hughes, the US electronics company, has teamed with Smiths Industries of the UK to offer a slimmed down version of its Tomahawk long-range cruise missile. Tomahawk has many fans in the British defence ministry.

It has also been selected for the Royal Navy recently, and will be fired from submarines to attack targets outside aircraft range. However, Airhawk, the son-of-Tomahawk being offered in this bid, is expensive and Hughes does not have strong UK credentials; despite that it is a very strong contender.

McDonnell Douglas of the US has teamed with Hunting of the UK to offer an evolution of the US Harpoon anti-ship missile. Its entry, called Grand Slam, has grown bigger wings and longer range, but is still thought to be lagging behind the Hughes bid. Texas Instruments is the other US entrant offering a version of its new Joint Stand-Off Weapon (JSOW) in collaboration with Shorts of Belfast. The version of JSOW being developed in the US is a gliding guided bomb which does not excite the British ministry. But the programme is designed to produce a motorised version later, and tests of the system have been successfully completed.

Each of the US competitors is holding out the tantalising prospect that, if it is selected, the UK could win work on the US equivalent of Casom, the Joint Air-to-surface Stand-Off Missile (Jassm). The Jassm programme is likely to be 10 times that of the UK, and could provide lucrative work for UK component and sub-system suppliers.

The leading European contender for the UK contract is the British Aerospace-Matra Apache. This was originally designed to be an anti-runway cruise missile which would fly along airfields dropping small bombs to crater runways. It has been adapted to the Casom role and could be adopted by both France and Germany for similar programmes.

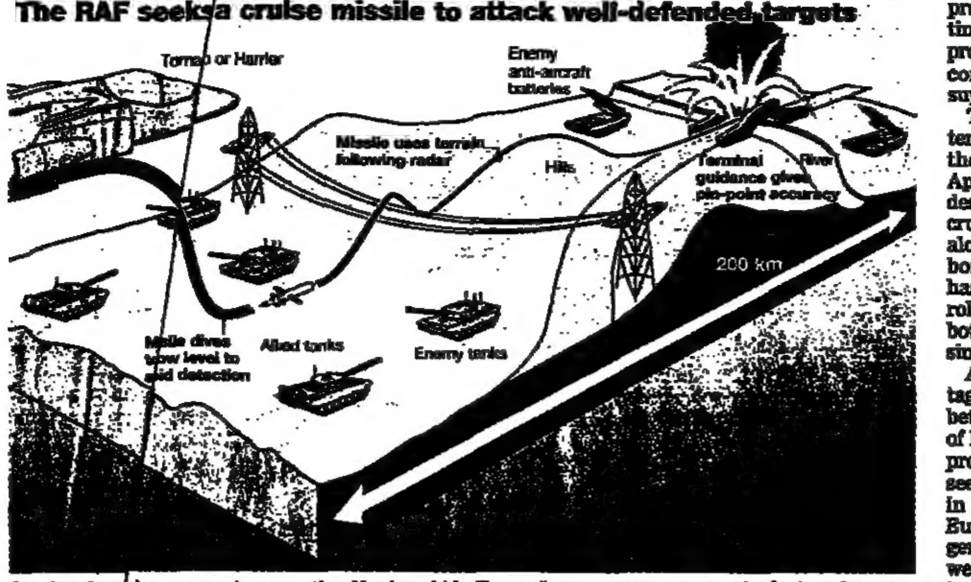
Apache has the great advantage that the proposed merger between the missile divisions of BAe and Matra is unlikely to proceed without it. The deal is seen as an important element in the consolidation of the European defence industry in general and for keeping guided weapons technology in the UK in particular. This bid has heavyweight political backing.

GEC-Marconi has pitched in with Pegasus, a beefed-up version of the guided bomb which it supplies to the United Arab Emirates. Like the JSOW, however, the stretched versions of gliding bombs do not find great favour with the British ministry.

Against that, the UAE is also looking for similar cruise missile and if the MoD were to pick Pegasus, GEC could win $1bn of work from the Middle East. Ironically, Pegasus is pitched against Apache in the UAE competition.

Fans of Israeli equipment are backing the Popeye, designed by Raefel, which has the merit of being cheap, but is still considered an outsider. Also lagging behind is the KEPD 350 from Daimler Benz Aerospace.

The RAF seeks a cruise missile to attack well-defended targets



Two attempts to acquire tank-busting missiles for the Royal Air Force have been cancelled over the past decade because of Treasury cuts, and the defence ministry spent £2.5bn last July on Apache anti-tank helicopters to fulfil a similar job. Officially, the programme remains on course to be decided by July. Helicopters are for hand-to-hand sparring while the RAF's Harrier jets supply a ground commander with a heavy punch. The companies bidding to supply missiles have to very different views of how to deliver knock-out blows. Of the five contenders two favour loading a Harrier with batches of up to 18 conventional missiles which can be fired individually or as a salvo. The other three have opted for 2-4 pods which are fired one at a time and then "dispense" large numbers of sub-munitions over the target area.

Of the missile contenders, the leader is probably being fielded by GEC-Marconi. It is offering a version of the US Hellfire missile which is the main armament of the Apache helicopter. The other missile on offer is the British Aerospace Typhoon, an adaptation of BAe's new Asraam air-to-air missile which uses a guidance system supplied by Hughes of the US. Critics of the Typhoon say that it will be more expensive than the GEC-Marconi contender as a way to kill tanks.

Leading the field for the dispenser solutions is the Hunting Swaarm, which was the rival to Brimstone the last time the competition was launched. Swaarm uses a mixture of European and US technologies, with Daimler-Benz Aerospace, Boeing and Alliant Techsystems all large suppliers. One of the few teams to remain from the cruise missile bid is Texas Instruments and Shorts. They are offering a version of the US weapon which they are entering in the UK cruise missile competition.

UK NEWS DIGEST

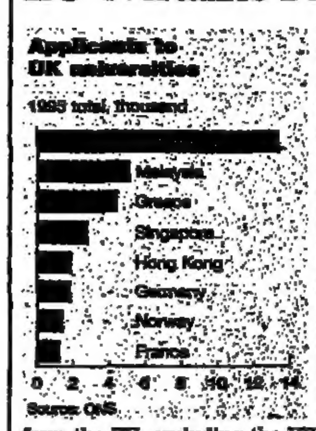
European Court 'needs reform'

The UK government, which has been infuriated by several recent defeats in the European Court of Human Rights, said yesterday it wanted reforms in the court's procedures, and more consideration of individual countries' traditions. The proposals were published only days after the Strasbourg court overturned the conviction of a British journalist, Mr Bill Goodwin, who was found guilty of contempt of court in Britain after he refused to name the sources for an article. The government said it was inviting comments from fellow members of the Council of Europe on reforms to the existing tribunal and the proposed "11th protocol" court which will speed up the consideration of alleged human rights abuses.

A Foreign Office paper said "differing circumstances and traditions", particularly in relation moral or social issues, should be taken into account in enforcing the European Convention on Human Rights. It added that more weight should be given to the decisions of local democratic institutions and tribunals. Other British proposals include prior notice of candidates to be judges, to allow time for objections, and a requirement that the court give earlier warning of its "main areas of concern" in cases. "The government has been concerned about some recent judgments of the court and it would like to see certain changes to promote fairness," the Foreign Office said.

Bruce Clark, Diplomatic Correspondent

EU overtakes Far East



Applications to British universities from other European Union nations rose by one-third last year, while the number accepted increased by almost 40 per cent, according to the UK Universities and Colleges Admissions Service. They accounted for almost half of the 3.5 per cent rise in applications last year, up 14,325 to 419,442. The figures reflect attempts by higher education to expand its market, and suggest that students from mainland Europe are taking more advantage of the mobility offered by the EU. A total of 25,520 people applied from the EU, excluding the UK, putting it significantly ahead of the Far East, where British universities have traditionally had strong links. A total of 12,979 applicants came from this area, including 5,073 from Malaysia. There was also strong interest from Africa, including 853 applicants from Kenya and 653 from Nigeria.

John Authers, Public Policy Staff

Many Names reject offer

LLOYD'S
LLOYD'S OF LONDON

The Gooda Walker Action Group, one of the largest and most influential groups representing loss-making Names at Lloyd's of London, said yesterday that 65 per cent of its members had voted to reject the $4.25bn out-of-court settlement being put to the market's 34,000 investors. So far 1,060 members had said in a questionnaire that they would reject the offer while 558 were ready to accept. Mr Michael Deeny, chairman of the group, said similar figures were emerging from other groups of litigating Names. "They are being offered much less than they can recover through the courts," he said.

Jim Kelly, Financial Staff

LEGAL NOTICES

KILBURN LIMITED

Notice is hereby given that the Creditors of the above named Company are required on or before 6th May 1996 to send in their names and addresses with particulars of their Debts or Claims and the names and addresses of their Solicitors (if any) to the undersigned Anthony Christian Pickford of PO Box 313, Anson Court, La Route Des Camps, St Martins, Guernsey, Channel Islands the Liquidator of the said Company, and if so required by notice in writing by the said Liquidator, are by their Solicitors or personally to come in and prove their said Debts or Claims at such time and place as shall be specified in such notice, or in default thereof they will be excluded from the benefit of any distribution made before such debts are proved.

A C PICKFORD, Liquidator

LEGAL NOTICES

WATERLOO PLC
Formerly Security Pacific Eurofinance Plc
Company No: 1617740
In Members' Voluntary Liquidation

Notice is hereby given, pursuant to Rules 4.182A and 11.2 of the Insolvency Rules 1986, that the Liquidator of the above Company intends to make a distribution to the creditors within four months after 30 April 1996. Creditors are required to submit full details of their claims and their names and addresses to the Liquidator, Roger Howard Oldfield, KPMG, PO Box 730, 20 Farringdon Street, London EC4A 4PP on or before Tuesday 30 April 1996, which is the last day for proving claims. Notice is also given that the Liquidator proposes to make final distributions and that such distributions will be made without regard to any claims not made by the date mentioned. Note: The Liquidator believes that the Company has no unpaid creditors.

R H Oldfield - Liquidator Dated 26 March 1996

هكذا من الأصل

RECRUITMENT

JOBS: Women are failing to take power in big companies

Ceilings from toughened glass

It is more than 20 years since the first UK sex discrimination and equal pay laws attempted to give women a fairer deal in employment. Yet women appear to be almost as much excluded as they have ever been from positions of power in Britain's biggest boardrooms.

They may qualify occasionally by birth to be the head of state, they may even have achieved the highest political office, but they have hardly scratched the armour of Britain's male-dominated boardrooms.

A study carried out by Christine Mallin, professor of finance at Nottingham Business School, and Martin Conyon, a research fellow at the University of Warwick, shows that women's influence in the running of big publicly-quoted companies remains minimal. They are simply not coming through the system.

The report shows that the number of women executive directors in FT-SE 100 companies can be counted on two hands with fingers to spare. There are six. June De Moller at Carlton Communications is the only woman managing director. The other executive directorships are held by Kathleen O'Donovan at BTR, Rosemary Thorne at Sainsbury, both finance directors, Stephanie Monk at Granada, Sara Morrison at General Electric and Caroline Burton at Guardian Royal Exchange. Outside the biggest group Ann Iverson, former managing director of Mothercare, is worth a mention as chief executive of Laura Ashley.

This elite group forms just one half of 1 per cent of the boards of FT-SE 100 companies. When non-executives are taken into account, the proportion improves to 3.6 per cent. That last figure, small as it may be, probably suggests a greater influence than that actually exercised by women, since less than half of the non-executive women are represented on the important remuneration and audit committees.

There may be many reasons for this degree of under-representation: women have children, some may be less good at politicking, they may not actually seek power as much as men. None of these points, however valid, addresses the question of whether women, once handed power, can use it as successfully or even more successfully than men.

In a job where birthright is the chief qualification, two of Britain's most successful monarchs, Queen Elizabeth I and Queen Victoria, were women. In those circumstances, as under the present monarchy, able men have been prepared to serve and respect the incumbent queen.

Why is business so different? Arguably the most powerful woman in British business is Carol Galley, who, as vice-chairman of Mercury Asset Management, has a say in the control of £70bn of investment capital. Her power is resented by some male executives who have felt the draught of her decisions, but she commands a high degree of respect among businessmen.

Yet it appears that these same men are either unprepared or incapable of bringing women on to their boards in any significant numbers. The problem could lie in the focus on abilities, which may often take too little account of the different management, organisational and decision making qualities of women. As Mallin and Conyon say in their study, "Women who may be candidates for directors' posts will often have quite different backgrounds and experiences to their male counterparts".

Mallin and Conyon believe that part of the problem of under-representation of women on the boards of public companies is in the selection procedures. There are too few nominations committees for non-executive appointments, they say. Another problem in the recruitment of both executive and non-executive directors is that virtually all outside appointments to the boards of big public companies are performed by headhunters, themselves mostly male, who look for the male characteristics that are favoured by their male clients. Few companies seem prepared to break the mould.

Women in the boardroom: evidence from large UK companies, by Christine Mallin and Martin Conyon, Nottingham Business School, Burton Street, Nottingham NG1 4BU.

Richard Donkin

Place	Living cost index	Inflation %	Exch'ge rate $1 =	Place	Living cost index	Inflation %	Exch'ge rate £1 =	Place	Living cost index	Inflation %	Exch'ge rate £1 =
Japan, Tokyo	174.29	0.20	15.179	London	100.00	3.30	1.00	Jamaica, Kingston	85.8	6.70	56.189
Switzerland, Geneva	141.79	2.00	.781	Portugal, Lisbon	98.50	4.00	23.301	Kenya, Nairobi	85.4	1.80	87.209
Norway, Oslo	125.39	2.40	9761	UAE, Abu Dhabi	97.65	1.70	5.733	Malaysia, KL	84.9	3.40	3.968
Denmark, Cop'hagen	121.80	1.90	8562	UAE, Dubai	97.32	1.70	5.733	Bangladesh, Dacca	84.5	6.40	62.744
Germany, Munich	119.67	1.80	2221	Italy, Rome	96.76	5.80	2487.592	Poland, Warsaw	83.7	2.40	3.845
Germany, Frankfurt	119.09	1.80	2221	Irish Rep, Dublin	96.10	2.40	0.968	Philippines, Manila	82.75	.00	40.901
Germany, Berlin	117.70	1.80	2221	Morocco, Rabat	95.10	7.10	13.067	Nigeria, Lagos	82.21	80	34.337
Finland, Helsinki	116.79	0.30	6.92	Israel, Tel Aviv	94.74	8.40	4.797	Nicaragua, Manague	81.54	.00	12.282
Germany, Bonn	116.63	1.80	2.21	Kuwait, Kuwait	94.69	2.40	0.468	Canada, Toronto	80.12	.40	2.113
Belgium, Brussels	116.43	1.20	45.66	USA, Washington	94.45	2.80	1.561	Australia, Sydney	80.05	.10	2.155
Austria, Vienna	115.27	2.10	15.59	N. Zealand, Well'ton	94.14	5.90	2.395	USA, Houston	79.40	80	1.561
S. Korea, Seoul	114.02	4.40	1200.06	Chile, Santiago	94.04	8.80	645.788	Panama, Panama City	79.20	20	1.561
Sweden, Stockholm	113.61	2.70	10.17	Peru, Lima	93.04	10.20	3.621	Hungary, Budapest	78.96	[illegible]	208.077
Argentina, B A	112.02	2.20	1.51	Indonesia, Jakarta	91.97	9.00	3564.851	India, New Delhi	77.36	10	54.401
France, Paris	111.53	1.80	7.64	Bahrain, Manama	91.40	2.70	0.588	Costa Rica, S. Jose	76.93	[illegible]	299.298
Brazil, Brasilia	110.77	23.80	1.56	Sri Lanka, Colombo	91.07	12.90	82.566	Egypt, Cairo	76.68	[illegible]	5.312
Hong Kong, Victoria	110.57	8.40	12.02	Greece, Athens	90.92	8.30	364.531	Canada, Ottowa	76.48	0	2.113
Singapore, Singapore	110.31	1.30	2.20	USA, Chicago	90.42	2.80	1.561	Pakistan, Islamabad	75.62	10	53.404
China, Beijing	107.51	12.10	12.97	Algeria, Algiers	89.76	30.00	79.701	Czech Rep, Prague	74.19	[illegible]	41.01
Italy, Milan	106.77	5.80	2487.59	Jordan, Amman	89.10	2.10	1.107	Nepal, Kathmandu	72.99	[illegible]	84.673
USA, New York	106.18	2.80	1.56	USA, Los Angeles	88.57	2.80	1.561	S. Africa, Jo'burg	71.91	[illegible]	5.703
Luxembourg	104.35	1.60	45.46	Cyprus, Nicosia	88.55	70.00	0.7032	Mexico, Mexico City	70.94	45	11.983
Netherlands, A'dam	103.17	1.30	2.47	Thailand, Bangkok	86.92	6.60	39.234	Zimbabwe, Harare	70.52	21	14.469
S. Arabia, Jeddah	101.59	5.00	5.85	Tunisia, Tunis	86.71	6.40	1.457	Venezuela, Caracas	70.19	51	264.999
Spain, Madrid	100.58	4.30	189.27	Paraguay, Asuncion	86.47	18.90	3063.056	H'duras, Tegucigalpa	67.40	27.	15.748

Compiled Belinda Smart

● P-E International has just released the results of its cost of living survey, now carried out at six-monthly intervals. The cities listed above are a sample from about 120 countries covered in the survey. Those who can recall when the index was last published will notice that Tokyo has edged down slightly although its ranking as the most expensive city remains the same.

The order has changed somewhat elsewhere, with Prague moving up the list. Madrid also appears now to be slightly more expensive than London. Hong Kong seems to have become slightly less costly.

The index is calculated against the exchange rates current on November 24 1995. To update it, divide the exchange rate by the new rate and multiply the result by the table's index figure.

The index is drawn from six European cost-of-living indexes and is based on the consumption needs of a married couple with two school-age children. It excludes house rents and tax levels. A full package of information, including taxation and housing details, can be obtained from P-E, price £6. (P-E International, Park House, Wick Road, Egham, Surrey, TW20 OHW, tel 01784 434411, fax 01784 437828.)

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Call for code of practice

Britain's top companies have floated a proposal that business adopt a code of practice on environmental reporting in order to promote the habit.

The Advisory Committee on Business and the Environment, the body of senior business figures that advises the government on environmental matters, says this would greatly improve understanding and use of environmental information by the financial markets.

The recommendation is one of the main points to emerge from a year-long study of the information links between business and the financial sector.

The consultation paper issued today says improved environmental reporting could do much to help analysts, fund managers and others form better judgments of companies' risk profiles, their prospects and their worth.

It proposes a number of guidelines for environmental reporting, and puts forward issues for further discussion.

After examining the experience of the US, the paper also emphasises the role that environmental agencies can play in forging links with financial regulation agencies to get companies to be more open about the financial implications of their environmental performance.

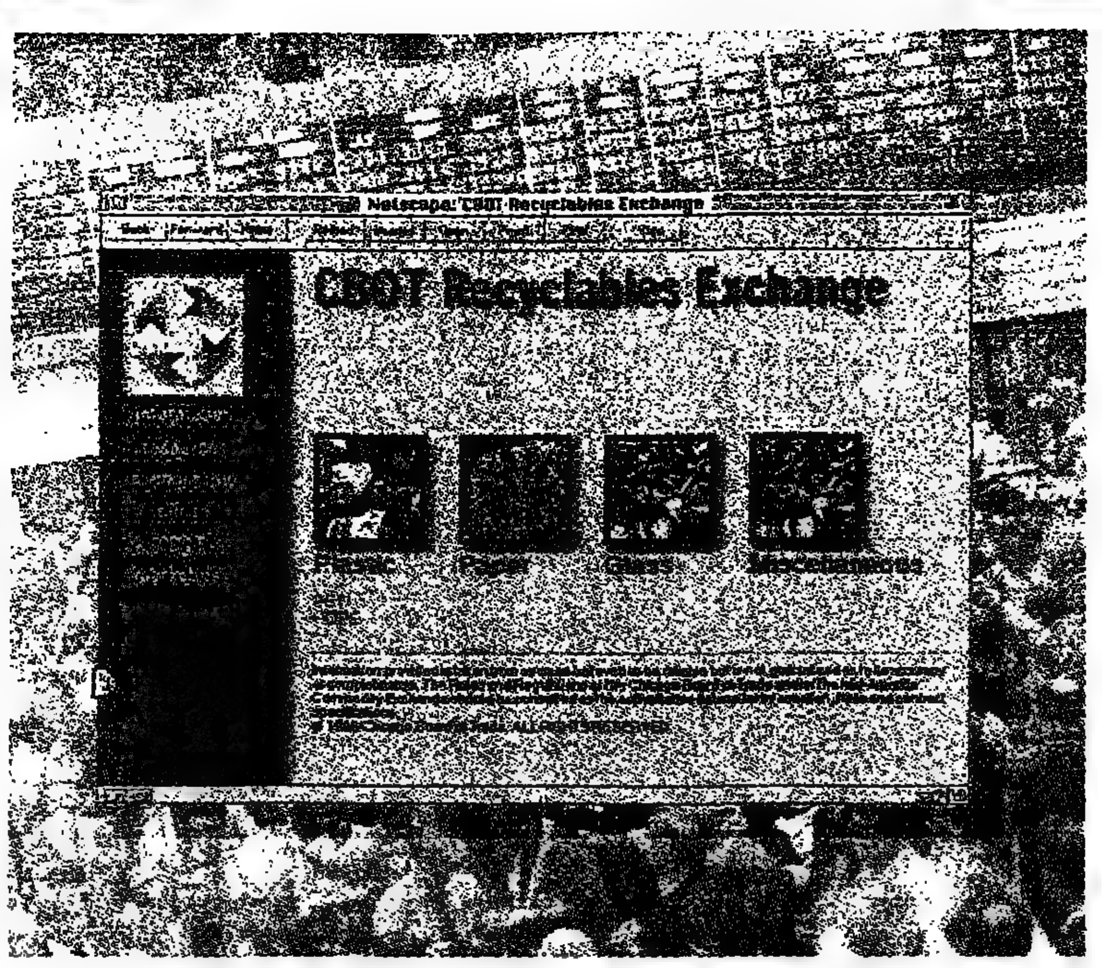
David Davies, who chairs ACBE, says financial institutions have shown only limited interest in environmental issues so far, even though they could exert considerable influence on company managements.

Inconsistency and incompleteness of environmental information is the key reason, Davies believes. "ACBE is endeavouring to improve the situation," he says.

The paper is the first in a series on financial issues and the environment.

David Lascelles

The paper is available from the ACBE secretariat, Room C11/13, Department of the Environment, Marsham Street, London SW1P 3EB (tel 0171-276 4645). Comments are invited by June 10.



Chicago hopes its fledgling recyclables exchange will get a boost on the Internet, says Leyla Boulton

Trading trash in cyberspace

The market place which introduced the world to grains futures and financial derivatives will soon be throwing rubbish on to the Internet.

The Chicago Board of Trade (CBOT) later this month plans to display in cyberspace its fledgling exchange for recyclable commodities such as paper, plastic and glass. Its miscellaneous category extends to car batteries and vinyl – in short, anything that is non-hazardous, recyclable material.

"This will tell you what somebody is prepared to pay for PET plastic today, what somebody in China is willing to sell and what somebody in South Africa is willing to buy," says David Bedore, in charge of marketing the project for the CBOT. "It is making prices more visible out there so it is no longer a guessing-game."

The move on to the Internet is part of attempts by the Board of Trade to nurse to maturity a global recycling market that today is highly fragmented and prone to wild price fluctuations.

In launching its exchange last October, the CBOT recognised recycling's potential to become a fully-fledged commodity market, complete with open-outcry trading and futures contracts to help players protect themselves against risk.

"What the recycling business needs is a more efficient system," agrees Phillip Rooney, president of WMX Technologies, the big US waste management company, which sees recycling as one of its fastest-growing activities.

While recycling is volatile – partly because governments are still in the process of drawing up the rules upon which these markets depend, it has been growing fast in many countries. In the CBOT's own backyard, the city of Chicago overnight increased recycling targets from 10 per cent of household rubbish this year to 25 per cent next year.

Bedore says that once the exchange is on the Internet, anyone with a computer and modem will be able to look at its bulletin board, listing "For sale" or "Wanted" items with price, quantity and type of commodity.

Subscribers who pay $1,000 (£658) a year will be able to post an unlimited number of bids and offers, as well as find out additional details – such as moisture content for paper – and how to contact other vendors and buyers. "They won't be able to point and click to get that [additional] information but they will be able to send e-mail [to potential partners]," says Bedore.

The reasons for putting the exchange on the Internet are obvious: the low cost of dialling into the Internet for the price of a local call opens up the possibility of attracting the large number of international players that the market needs in order to become efficient.

So far, the exchange, a handful of computer screens that can be dialled into on a Chicago telephone number, has attracted 148, mainly US, subscribers. These range from large companies such as Weyerhaeuser, the US paper manufacturer, to small businesses. But the Board of Trade, according to Patrick Videll, one of its economists, is banking on the Internet "to open floodgates of activity".

In the meantime, the CBOT, which is proud of its sophisticated recordation and disputes arbitration procedures, has also been trying to establish why only a small number of recycling transactions have been recorded with it.

Videll suggests that some recycling subscribers may be a little shy of exposing themselves to the possibility of arbitration which becomes available to parties when they record a transaction. In order to encourage the recording of deals and therefore of the prices at which deals are struck, the Board of Trade is considering offering discounts to subscribers who record their transactions.

The ultimate goal is to develop futures contracts, in which the CBOT specialises – but before that can happen, it will need to set uniform standards for the different recyclable commodities.

Bedore expects that process to take at least a couple of years. "It took us 20 years to get a grain futures contract from the cash-market," he says, referring to the start of grain futures trading in 1865. "We are not anticipating that recycling futures will take that long but . . . we're waiting for the market to mature."

The address for the Chicago Board of Trade's World Wide Web site on the Internet is http://www.cbot.com

Cars that run on cooking oil

Japanese cuisine is now providing bio-diesel, writes Emiko Terazono

Japanese companies looking for ways to dispose of used cooking oil have discovered that old tempura oil can power cars and boil water.

Although Japan recycles 250,000 of the 2m tons of oil used every year, making it into additives, soaps and rust-preventive paints, the rest is disposed of, usually in its original form, in rivers and seas and poses a serious threat to the environment.

Now, though, Someya Shoten, a company that collects and recycles oil in Tokyo, has managed to change old vegetable oil into a fuel similar to diesel.

It says that 60 cars are running on the fuel in Tokyo and that it is producing about 1,000 litres a day.

It got the idea of making bio-diesel after it heard of a similar experiment in the US with clean cooking oil produced from soy beans.

"We thought we might be able to do the same with old cooking oil and started experimenting," says the company.

After removing impurities and various food particles, alcohol and catalysts are added to cause a chemical reaction.

The bio-diesel oil produces just one-third of the black smoke caused by ordinary diesel and does not make any sulphur dioxide.

But while the company sells the oil, which is suitable for cars with standard diesel engines, at Y80 (50p) per litre, bureaucratic red tape is blocking any further increase in use.

The problem stems from the fact that fuels are the responsibility of the Ministry of International Trade and Industry, whereas Someya's bio-diesel comes under the jurisdiction of the Ministry of Agriculture, just like all cooking oils.

The Ministry of Agriculture says that at present it is carrying out a study of ways of permitting the bio-diesel to be designated as a normal fuel.

Meanwhile, a group of five companies based in Ibaraki, north of Tokyo, have developed a cheap and easy way to dispose of unwanted styrofoam with used frying oil.

Until now disposal has been costly as the sheer bulk has led to high transport costs. On top of that, turning the material into fuels and other substances with various acids and heat in specialised processors and plants has required costly technology and equipment.

Now the five companies have answered the pleas of construction companies, which use large

'Hot cooking oil is slightly dangerous, but housewives and restaurant cooks do use it everyday'

amounts of styrofoam in the transport of materials, to change it into a solid fuel by in effect "deep-frying".

One member of the group, Atom Engineering, which is a small electric-machinery company, says that since styrofoam is 90 per cent air and shrinks when exposed to heat, it tried hot water and air to reduce its bulk.

Eventually it discovered that water, which only boils at 100°C, was not hot enough while using hot air proved too dangerous a process.

"Hot cooking oil is slightly dangerous, but housewives and restaurant cooks do use it everyday," says the company.

It developed a portable disposal unit, similar to a chip-pan.

When placed in hot cooking oil at about 150°C, the styrofoam shrinks and becomes a gel-like substance that sinks to the bottom of the machine.

After cooling, this turns into an efficient fuel that generates only slightly less heat than that produced by kerosene.

The fuel can be used in a special boiler, and since the group launched the device last June, it has sold nearly 3,000 units, costing Y489,000 each.

Now it is developing a larger model that can process more than 1 ton of styrofoam a day.

Atom Engineering says its employees are assisting the development effort by supplying used tempura oil from their own homes.

Television in Japan

Cherry picking the headlines

It is nearly 40 years since the marriage of Japan's then Crown Prince to a beautiful commoner, Michiko Shoda, captivated the Japanese public and inspired millions to invest in a television set.

Five years later, in 1964, the Tokyo Olympic Games were to ensure that the TV commanded the prime spot in Japanese living rooms.

While royal drama and world-class sports competitions still manage to attract large audiences to the tube, much has changed since those early days when television in Japan had the power to enthrall simply by presenting events as they were captured on camera.

Today, talk shows, game shows, historical dramas and soap operas dominate the schedules. Television in Japan seems to have outlived the role, offered by documentary and drama, of capturing memorable moments, providing moral inspiration or depicting far-reaching social trends.

Its main purpose today is innocuous diversion. This, after all, is a country where the evening news in early April regularly starts the bulletin with an update on where the cherry trees are in full bloom.

The quiz show which, literally translated, calls itself "Magical Brain Power", last month drew in nearly a third of all viewers in a country with a population of about 125m.

On the show, famous TV personalities compete to answer questions of extraordinary simplicity (examples include spotting the differences between two pictures, and so on) under pressure of time.

Whether the show's appeal is the spectacle of celebrities such as George Tokoro, a comedian known for his sharp wit, being reduced to the level of a child, or the ability of just about anyone to join in and get most of the answers right, its popularity is undeniable.

Ninzaburo Furuhata, a detective series featuring a Columbo-like character who solves not-so-puzzling mysteries, has also been a big hit, with ratings of nearly 27 per cent.

Like his cigar-puffing western role model, Furuhata is a soft-spoken, modest character quite unlike the cursing, daredevil agents of law and order usually favoured by Hollywood. His criminal adversaries are hardly more monstrous than those confronted by the Hardy Boys.

Producers, aware of the stresses of modern life, seem unwilling to tackle any issues that might make demands on their viewers' schedules, not to mention their feelings and intelligence.

Whether it is a cookery programme or a historical drama, there is a strong appetite for grandiose props and stunning visual effects, which can end up attracting more attention than the main subject itself.

Take *Hideyoshi*, a historical drama produced by NHK, the Japanese equivalent of the BBC. The story of Hideyoshi, who rose from humble origins to become the warlord who would complete the unification of Japan, is familiar to everyone who has been through the Japanese educational system.

NHK's dramatisation of Hideyoshi's life has been the top-rated programme since it went on air in January. But the programme's success is attributed mainly to the popularity of the main actor and the dramatic impact of fast, loud, gruesome scenes and unconventional language rather than anything about the hero or his life story.

Further clues about the degree of mental and emotional commitment required to make the most of Japanese television are provided by the latest TV sets, which allow viewers to watch several programme simultaneously on the screen. While intended as a menu from which to choose a desired programme, the function saves many people the trouble of even bothering to change channels.

Michiyo Nakamoto

Theatre/Sarah Hemming

Life and art in 'The Last Romantics'

First the good news. After the thin gruel of Nigel Williams' *Harry and Me*, the misguided farce which opened at the Royal Court last week, his *The Last Romantics*, which has just opened at Greenwich Theatre, is an altogether neatier piece about life and art.

Williams' comedy, originally a television play, explores ideas about literature and its relevance to the changing world through academics F. R. Leavis and Sir Arthur Quiller-Couch.

The whole play is encapsulated in a complex – rather cumbersome – structure of flashback within flashback. We are introduced to the subject by Tulloch (Tony Curran), an erstwhile Cambridge University student, who reminisces about an afternoon in the company of the Leavises that pinpointed the whole debate. Flashback to the afternoon in question: it is 1968, revolution is in the air, unrest on the streets, and in Leavis's living room Tulloch is fumblingly reciting a bad essay about Wordsworth. But while he and his disagreeable anarchic fellow student Costain (Ian Shaw) chide the elderly Leavis over the irrelevance of literature, we are privy to further flashbacks, which spirit Leavis back to his youth and the occasion he crossed swords with Quiller-Couch ("Q" in the play), first professor of English at Cambridge, on a similar issue.

The centre of the play is a raging quarrel between the two academics over Leavis's thesis. Leavis, having been through the first world war, maintains that TS Eliot's *The Wasteland* is the only appropriate response to the futility of the war. Q, who lost his son in the war, rejects the idea that his death was futile and insists art should be beautiful. So, it seems, we arrive at the central issues of the play: does literature strike at the fundamental issues of human existence? And does each generation have to overthrow the previous generation's answers for themselves? For while Leavis rejects Q's attitude, he seems to have imprisoned himself into an ivory tower by the time Tulloch comes to study.

I says seems, because the frustrating aspects of the play are that we never get far in this debate and that the characters do not have much depth beyond being co-opted into representing various sides of the argument. There are compelling performances in Matthew Francis's production from Mark Kingston as Leavis and Robert Langton Lloyd as Q. Langton Lloyd is all charm and self-effacement, Kingston a touching portrait of a man in whom a once raging fire has burned down to a glow. But you never quite believe the academic weight of these men, and what the play fails to do is to convince you of the immense importance of literature to the Leavises.

More limited still is the characterisation of Queenie, Leavis's wife, drawn simply as an embittered old woman; this elicits a strained performance from Maggie Steed, who growls into her boots as if she were aiming at portraying Lady Thatcher with a bad cold. It is hard to credit too that a student with so slim a grasp of English as the odious Tulloch would find a place at Cambridge.

The play abounds in droll humour and witty lines, and the subject itself is compelling. But you feel as if you have witnessed a small spark where really a blazing conflagration was called for.

At Greenwich Theatre, London SE10 until May 4.

Alastair Muir

Maggie Steed: growls into her boots in 'strained performance'

Theatre

Scots tell a tale of human bondage

David Murray admires the naturalism of a play which carries the audience back to a harsher era

Since Sondheim's *Company* moved up and away, the Donmar Warehouse has played host to four productions from the regions: Cornwall, Ireland, Wales and now Scotland. Sue Glover's *Bondagers*, first produced by the Traverse Theatre for Glasgow and Edinburgh some five years ago, is an oddly satisfying, rather beautiful piece. Traverse is taking it around the world; perhaps Budapest and even Toronto will enjoy the benefit of surtitles or a voice-over translation – which would have been a help in London too, given the broad Scots dialect of the text.

The scene is defined only by a broad earth floor, a wall's-length of antique farm tools and four large wooden boxes which are trundled about to serve many purposes. Paule Constable's varied, imaginative lighting is a constant asset with this simple set.

The action takes place on a large farm on the Scottish Borders in the early 19th century. We watch six women through several seasons there. For years they have all been "bondagers": female labourers – wives, sisters or just workmates – whom every "hind", a man hired for a year's farmwork, must bring with him.

Five of them are still that, but the sixth, Ellen (Rosaleen Pelan), has made a lucky marriage with the Maister. Now she wears good clothes and tight stays, and in her narrative stretches, which are the longest ones, her accent veers toward Edinburgh. This is manna for most of us, presenting blessed patches of intelligibility, for the lingo is otherwise very "braid" indeed.

Since the play combines strongly rural accents with unfamiliar Scots phrases and a conscientiously archaic vocabulary, for a long while we might as well have been listening to Hungarian. The mere possession of Scottish genes, as I found, was of little use. (Do not preen yourself for knowing what neeps and tatties are – go early enough to study the dense glossery in the programme.) With growing familiarity, however, the linguistic mists parted little by little.

Long before this stage Ian Brown's staging had developed a confident rhythm, from the jaunty choristers'-razzmatazz at the start through the swift vignettes that followed: collective labour, intimate moments, nocturnal high-jinks, a few nasty clashes. While all this lasted we found ourselves drawn into a plausible world and, enlightened by the contact, often moved. The slightly discouraging contours of the "poetic" documentary-play melted gracefully into plain, laconic naturalism.

The play may be strictly fictional. For all Glover's dedicated research, the facts and "typical" moments that the feminist playwright has chosen to highlight may be ones that tickle late-20th-century fancies, untypical of any average day's concerns back then. Yet it is humane and unsentimental, fetchingly produced, and honestly acted by a first-rate cast.

It may be wrong to single out Kathryn Howden's Tottie, the simple-minded girl who inevitably gets seduced and abandoned, but her rag-doll manners are no less poignant than artful. I admired *Bondagers* beyond expectation.

At the Donmar Warehouse, London WC2 until 6 April.

Alastair Muir

Kathryn Howden (centre) as Tottie is poignant and artful; she is part of a first-rate cast in Glover's humane and unsentimental look at bonded labour on a Scots farm

Music/Richard Fairman

Vienna Philharmonic tampers with tradition

Tradition remains paramount in Vienna, but a few cracks are starting to appear in the old facade. After years of associating itself with a safe coterie of eminent conductors, the Vienna Philharmonic has become more adventurous: there have been recordings with John Eliot Gardiner, and more recently the orchestra is said to have been excited by its first concert with Roger Norrington.

Both men have origins in the early music movement. The modernist Pierre Boulez is at the other end of the spectrum. With the exception of later Strauss and the occasional piece of Schoenberg or Berg, the Vienna Philharmonic's core repertoire has been reluctant to admit much from the 20th century. It is not surprising therefore that Boulez played little part in the orchestra's life until recently, making his first appearance at a Vienna Philharmonic subscription concert in 1994.

Now he is over 70, however, Boulez no doubt qualifies for the orchestra by virtue of being a grand old man of music. The programme for his Royal Festival Hall concert on Sunday – the second in this year's series of three visits by the Vienna Philharmonic – looked like a compromise. The first half featured Haydn, a composer one would have thought was a stranger to Boulez, and the second Mahler, whom the orchestra famously resisted for so long.

At the interval the score was one-nil to the orchestra. There was so little of interest in the performance of Haydn's "London" Symphony No 104 that plenty of time remained to look around and admire the cool, vibrato-free playing of the first flute or the subtle tone-colouring of the violins. Boulez would not seem to have much feel for Haydn: the dramatic pauses in the minuet came out as empty spaces in which to count the beats, although the finale did find more pace and punch.

If the Haydn was effete, it may be because the Mahler was to require reserves of strength and determination. The last time the Vienna Philharmonic came to London with Mahler's Fifth Symphony the conductor was Leonard Bernstein, who gave a performance drunk on the intoxicating emotions of Mahler's music. Boulez is always sober by comparison, though in this symphony that is not necessarily a bad thing. Too many other conductors simply play the Fifth for extremes in order to show off their orchestras' virtuosity.

Under Boulez the symphony was never a mere showpiece. The first two movements plunged into serious musical argument: the measured tread of the funeral march brought gravity to the first; the second resisted the temptation to indulge neurotic exaggerations. He refused to let the famous *adagietto* wallow, and, with equal disdain for theatricality, sped through the climactic brass chorale of the finale; Boulez's Mahler is not the kind to live from moment to moment. This was a performance of strength and discipline – one of the more distinguished the Vienna Philharmonic has brought in recent years.

The final Vienna Philharmonic London concert this season is on May 10 at the Royal Festival Hall.

INTERNATIONAL ARTS GUIDE

BERLIN

MUSICAL
Metropol-Theater
Tel: 49-30-202460
● West Side Story: by Bernstein. Conducted by Günter Joseck and performed by the Metropol-Theater. Soloists include Christophe Reiche, Alexander Kerbst and Paul Arenkens; 7.30pm; Apr 4, 5

CHICAGO

THEATRE
The Goodman Theatre
Tel: 1-312-443-3800
● A Pirate's Lullaby: by Jessica Litwak. Directed by Susan V. Booth. The cast includes Cynthia Orthal, Ann Whitney, Paula Killen and Lusia Strus; Mon Apr 8: 7pm, Tue-Thu, Sun 7.30pm, Fri, Sat 8pm, Sat, Sun also 2pm; from Apr 8 to Apr 28

DRESDEN

CONCERT
Sächsische Staatsoper Dresden
Tel: 49-351-49110
● Waltraud Meier: accompanied by pianist Nicholas Carthy. The soprano performs songs by Berg, R. Schumann, Wagner and Mahler; 8pm; Apr 6

FRANKFURT

CONCERT
Alte Oper Tel: 49-69-1340400
● Bengt-Ake Lundin: the pianist performs works by Mozart, De Frumerie, Liszt, Ravel and Rachmaninov; 8pm; Apr 4

GLASGOW

POP-MUSIC
Glasgow Royal Concert Hall
Tel: 44-141-3326633
● ELO part II: a show by this orchestral rock band featuring both old and new material; 7.30pm; Apr 5

LONDON

CONCERT
Purcell Room
Tel: 44-171-9604242
● The Parkhouse Award Prizewinners Concert: violinist Hanna Weinmeister and pianist Lora Dimitrova perform works by Mozart, Webern, Brahms and Bartók; 7.30pm; Apr 4
Queen Elizabeth Hall
Tel: 44-171-9604242
● The London Orpheus Orchestra: with conductor James Gaddarn, soprano Beryl Tucapska, contralto Beverly Mills, tenor Wynford Evans, bass Ian Caddy, organist Leslie Pearson and the London Orpheus Choir perform works by Mozart and Salieri; 7.45pm; Apr 4
Royal Albert Hall
Tel: 44-171-5898212
● Royal Philharmonic Orchestra: with conductor Vernon Handley and cellist Stephen Isserlis perform works by Elgar and Rachmaninov; 7.30pm; Apr 4
Royal Festival Hall
Tel: 44-171-9604242
● Messiah: by Handel. Performed by The London Philharmonic and The London Philharmonic Choir, conducted by David Angus. Soloists include soprano Pippa Daly, alto Ruby Philogene, tenor Andrew MacKenzie-Wicks and bass Neal Davies; 7.30pm; Apr 4

LOS ANGELES

EXHIBITION
The J. Paul Getty Museum
Tel: 1-310-459-7611
● Doris Ulmann: Photography and Folklore: exhibition devoted to photographer Doris Ulmann (1882-1934). The display features 48 photographs, including portraits, landscapes, still lifes, and architectural studies that span the period from 1916 until the early 1930s. Drawn from the museum's holdings, with loans from the New York Historical Society, the exhibition contains some of the few surviving visual records of several rural communities, reflecting the artist's contribution to the trend in the 1930s to preserve American folklore; from Apr 9 to Jul 7

LUXEMBOURG

DANCE
Théâtre Municipal Tel: 352-470895
● Les Grands Ballets Canadiens: perform Morris' Quinconci to music by Donizetti, Forsythe's Urlicht to music by Mahler, Nacho Duato's Ressemblant to music by Toto Bissinthe and Kylian's Sinfonietta to music by Janacek; 8pm; Apr 4, 5, 6

LYON

CONCERT
Auditorium Tel: 33-78 95 95 95
● Boris Berezovsky: the pianist performs works by Rachmaninov, Medtner and Ravel; 8.30pm; Apr 4

MUNICH

OPERA
Nationaltheater
Tel: 49-89-21851920
● Il Barbiere di Siviglia: by Rossini. Conducted by Marco Guidarini and performed by the Bayerische Staatsoper. Soloists include Marita Knobel, Enric Serra and Edita Gruberova; 7pm; Apr 6

NEW YORK

EXHIBITION
MOMA - Museum of Modern Art, New York Tel: 1-212-708-9400
● Come Sunday: Photographs by Thomas Roma: this exhibition of a new series of photographs by Thomas Roma (b. 1950) features approximately 80 black-and-white photographs made between 1991 and 1994. The exhibition is drawn from a larger body of photographs made during more than 150 services in 52 African-American Christian churches in Brooklyn; from Apr 4 to Jun 18
OPERA
Metropolitan Opera House
Tel: 1-212-362-6000
● Roméo et Juliette: by Gounod. Conducted by Edoardo Müller and performed by the Metropolitan Opera. Soloists include Ruth Ann Swenson, Jane Bunnell and Francisco Araiza; 8pm; Apr 4, 8
New York State Theater
Tel: 1-212-875-5570
● Attila: by Verdi. Conducted by Guido Ajmone and performed by the New York City Opera; 8pm; Apr 4, 10

NICE

CONCERT
Opéra de Nice Tel: 33-93 85 67 31
● Orchestre Philharmonique de Nice: with conductor Diego Masson and the Choeur de l'Opéra de Nice perform Stravinsky's Symphony of Psalms and Poulenc's Gloria; 8pm; Apr 5

PARIS

EXHIBITION
Musée du Louvre
Tel: 33-1 40 20 50 50
● Nouvelles acquisitions du Département des sculptures (1992-1995): for the fourth time the Département des sculptures is exhibiting an overview of its acquisitions of the past four years. On show are 37 works from different countries using various materials. The exhibition includes works by Gilles Guérin and Canova; from Apr 5 to Jul 8

ROTTERDAM

EXHIBITION
Museum Boymans-van Beuningen
Tel: 31-10-4419400
● Franse Glaskunst 1890-1940: exhibition of some 120 pieces of French glassware from the collection of the Glasmuseum Hentrich, which is housed in the Kunstmuseum Düsseldorf. The exhibits were made during the Art Nouveau and Art Deco movements and include works by Emile Gallé, Daum Frères, Ernest Léveillé, François Décorchemont, Maurice Marinot and others; to Apr 8

STOCKHOLM

OPERA
Kungliga Teatern - Royal Swedish Opera House Tel: 46-8-7914300
● Die Fledermaus: by J. Strauss. Conducted by Sixten Ehrling and performed by the Royal Swedish Opera; 7pm; Apr 4, 6, 8 (9.30pm), 10 (7.30pm)

VALENCIA

CONCERT
Palau de la Música i Congressos
Tel: 34-6-3375020
● Orquesta de Valencia: with conductor Manuel Galduf, soprano Estrella Estévez and bass Miquel Ramón perform works by J.S. Bach, Handel and J.S. Bach/Markevich; 7.30pm; Apr 4

VIENNA

OPERA
Wiener Staatsoper
Tel: 43-1-514442960
● Parsifal: by Wagner. Conducted by Asher Fisch and performed by the Wiener Staatsoper. Soloists include Marjana Lipovsek, Franz Grundheber and Kurt Rydl; 5pm; Apr 4, 6

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Financial Times Business Tonight

Ian Davidson

Close to the crossroads

Given the uncertainties over the future military role of Nato, it is extraordinary that the allies are planning the admission of new members from eastern Europe

It has become a ritual chant of western leaders: despite Russian protests, the east European countries must and will become members of Nato.

Warren Christopher, the US secretary of state, went to Moscow to tell the Russians so; he was followed by Javier Solana, Nato secretary-general; and last week Douglas Hurd, former UK foreign secretary, added his voice.

What western leaders do not tell us is what kind of shape Nato will be in by the time the east Europeans get to join.

After the end of the cold war, many questioned whether the Atlantic alliance could find a new military strategy, or even a new common political purpose, for Europe and America to work together. These doubts were reinforced by the deep and persistent policy conflict between Europe and the US towards the war in Bosnia.

The Dayton agreement, and the despatch of the 60,000-strong Implementation Force (IFOR), seemed to promise a better future, and a vindication of the idea that Nato is still the irreplaceable instrument of western military security. But these initial hopes of a new lease of life for Nato are already beginning to look premature and overstated, and may prove shortlived.

The US has said that it will withdraw its troops from Bosnia after 12 months, which means next December; and the European allies have said that they will leave when the Americans do. But the ceasefire is offering little prospect that a durable, self-sustaining peace will have been established by the end of this year: according to an intelligence assessment by the US Defence Department, the prospects of a viable, unitary Bosnia after a Nato withdrawal are "dim".

So when the 12 months are up, the alliance will face a critical moment of truth. Will the Europeans really withdraw their troops, like the Americans, regardless of the danger that war will break out again on Europe's doorstep? Or will they stay on, and take over a responsibility that the Americans reject?

Either way, the choice could be traumatic for the alliance. If war resumes, Europeans will blame the US for brutally sacrificing peace in Bosnia to President Clinton's electorally-determined 12-month deadline; but if the Europeans stay on to keep the peace alone, it would be difficult to avoid the inference that the US-European split on Bosnia was looking dangerously like a parting of the ways.

If the choice is peace or war, my hunch is that some European governments would want to stay to give peace a chance – at least for a while. But it is not clear how easy it would be to take over the military tasks of enforcing the ceasefire.

> Initial hopes of a brave new lease of life for Nato are already beginning to look premature and overstated, and may prove shortlived

The international force depends crucially on integrated Nato assets, such as headquarters, logistics and communications, as well as on military facilities, such as heavy airlift capacity and intelligence, which only the US can currently provide.

As it happens, Nato has been wrestling with the theoretical principles of this kind of dilemma for two years, so far without a conclusion. After the end of the cold war, everyone could see that Europe might face security threats which did not necessarily concern the US. So the allies have been debating whether the Europeans could use parts of the Nato machine, under the title of Combined Joint Task Forces (CJTFs), without the US being involved.

The unresolved problem is how to secure US acquiescence in a European operation using Nato facilities which are partly American, without giving the US a veto over it.

Nato officials soothingly say that this circle will be squared at the Nato summit in June. Yet it is hard to believe that conflicts of interest, affecting questions of peace and war, can be comfortably resolved by a process of sub-contracting. If Nato is vital for America's security, the US will not, and should not, allow essential parts to be detached for purposes over which it has no control. Alternatively, if the US is prepared for essential parts of Nato to be detached for alien purposes, one must deduce that Nato is ceasing to be essential for US security.

Some European governments, including France and Germany, call for a stronger European defence identity inside Nato. But in practice this seems to be a demand for the best of both worlds: a continuing US security guarantee, combined with more security independence for Europe on the cheap.

Given these fundamental uncertainties over whether Europe and America share enough common purpose to sustain the military role of the Atlantic alliance in an unpredictable future, it is extraordinary that the allies are still marching inexorably towards the admission of a raft of new members from eastern Europe.

One can see why the east Europeans want to join: they want protection from the Russians. It is not so easy to see what the present Nato members think they can offer to the east Europeans.

> If Nato is vital for America's security, the US will not allow essential parts to be detached for purposes over which it has no control

It is all the more difficult to see ahead when the campaign for Nato expansion is stirring up fierce anti-western sentiment in Moscow, and may play into the hands of extremist nationalists in the Russian presidential election in June. Warren Christopher's reassurances do no good: the Russians can see that Nato enlargement will be a massive shift in the balance of power to their disadvantage.

"Why does Nato enlargement pose a problem for Russia?" asked Mr Karl Lamers, foreign policy spokesman for the CDU party which leads Germany's ruling coalition. Last October, he said: "Its [Russia's] point of reference is, of course, not the European members of the Alliance but America, which Russia secretly admires but also secretly fears."

The solution to this problem, for Mr Lamers, is the development of a strong European defence system, and a corresponding transformation of Nato. "The alliance," he says, "will survive in the long term only if it is transformed into an alliance within which Europe forms an effective and efficient unit, and only if the trans-Atlantic partnership addresses the global challenges which confront Europe and America alike. But if this is to be achieved, Europe must make a huge effort..."

Instead, what we see is steady cutting of defence budgets all round; and rigid British insistence that there is no need for any serious European defence identity. Which means that the choices, as December approaches, will be all the more traumatic.

Personal View • Carl Bildt

The important lessons of Bosnia

There is scarcely such a thing any more as a truly effective national foreign policy

Anyone glancing at television news or newspaper headlines over the past few weeks will appreciate just how difficult the process of building peace in Bosnia is.

After 42 months of the most bitter and brutal war that Europe has witnessed since 1945, it could hardly be expected that all the fears, feelings and apprehension would disappear overnight. Three months' absence of war has brought but a modest start to the process of reconciliation and reintegration, and has vividly demonstrated how massive the tasks will be for years to come.

The peace agreement concluded in Dayton and signed in Paris is probably the most ambitious document of its kind in modern history. It sets out not only to end the war, but also to reconstruct – on the basis of the highest standards of international law and principles – a society that has been brutally torn apart.

The military force sent in to separate the armies and establish the new boundary line between the Moslem-Croat Federation and the Republika Serbska has now accomplished this task. But the limitations of military power, when it comes to reintegration and reconciliation, are becoming increasingly apparent every day. Force alone can separate armies, but can never bring the hearts and the minds of politicians and peoples to accept that the enemies of yesterday must be the partners of tomorrow.

In my function as High Representative for the implementation of the peace agreement, I have two main concerns.

The first is funding the costs of implementing the civilian and economic aspects of the Dayton agreement. While there are generally provisions for military spending in Bosnia in the existing defence budgets of individual countries, all of the civilian and economic efforts need separate funding decisions by separate nation states, operating according to separate national agendas.

I have been encouraged by the speed with which the European Parliament and the European Commission have moved in supporting my activities and providing quick and substantial aid from EU budgets. Last week's decision by the US Congress to provide a further $145m for economic reconstruction is also welcome. But it is important that other potential contributors take the opportunity of next week's international donors' conference in Brussels to match these efforts.

My second concern is the will of the parties to achieve reconciliation and reintegration. Without their will and participation, there will always be limits to what the international community can do with limited resources and within a limited timetable.

So far, I have seen less than enough of that will to achieve the full success of the peace agreement.

The brutal truth is that the unification of Sarajevo has accelerated the division of Bosnia, and that the freedom of movement we have sought to create throughout the territory is challenged almost daily by new checkpoints and by a pattern of arbitrary arrests that make people fear moving across the boundary line between the Federation-controlled area and the Bosnian Serb-occupied area. It is particularly provocative to see Mr Radovan Karadzic, the Bosnian Serb wartime leader indicted by the International War Crimes Tribunal, trying to remain in public office.

Tony Andrews

Carl Bildt: fears about continued ethnic separation and partition

The conflict in Bosnia is hardly new, and history will most certainly not end with the departure of the Implementation Force at the end of the year. Increasingly, we see the different parties reassessing their positions in the light of their perceptions of what might happen in the longer perspective. Reintegration and reconciliation is most certainly still an option – one we must do everything we can to support. But there is also a danger of continued ethnic separation and partition.

I am deeply worried by the tendencies in this direction in Bosnia. This could easily be seen as the continuation of a trend that has been apparent throughout this century. But it is a trend that, in the long run, can only bring further conflict to this entire region.

It is not for the international community to seek to rule and govern Bosnia, but none of us can be indifferent to the prospects for stability and peace in this important part of Europe.

Ethnic separation and strife here will impact directly on all European countries, and on the future of Europe's relationships with other important parts of the world. There can be no European "exit strategy" from Bosnia or the Balkans. It has been, and always will be, an important part of Europe.

We are still in the middle of the process of learning all the lessons of Bosnia. And no discussion of the future of our efforts to build a common foreign and security policy can be meaningful without taking all these lessons fully into account. Europeans must be able to act far more forcefully and coherently than in the past – and must be prepared to face the institutional implications of this across the entire range of instruments available for the conduct of diplomatic, economic and military relationships between nations.

One of the lessons of my year dealing with Bosnia has been that no European nation acting alone can achieve what European countries might be able to do together. There is scarcely any such thing any more as a national foreign policy that is truly effective.

But the failure in Bosnia before the deal struck in autumn 1995 was as much the failure of the transatlantic relationship, as of Europe or the US individually. There could probably have been peace far earlier, on roughly the terms we see now, if there had been unity of policy and coherence in action across the Atlantic.

Success and failure in Bosnia will have a big impact on how Europeans and Americans face all future challenges. The break-up of Yugoslavia was the first crucial test for the new world order that was supposed to be established. We must urgently learn the lessons from it if we are to be more successful in future. And, in the process, the EU must understand that it will have to remain committed to the security and stability of this part of Europe for the foreseeable future.

The author is High Representative for the implementation of the Bosnian Peace Accords.

LETTERS TO THE EDITOR

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Imbalance creating crisis in EU

From Mr Vernon Bogdanor.

Sir, In their Personal View ("A duty to be demanding", March 29), Klaus Kinkel and Hervé de Charette call for reforms to reinvigorate European institutions which are, they believe, threatened with "paralysis".

The crisis facing the European Union, however, derives not from an imbalance in its institutions, but from an imbalance between its institutions and the people. The continuing fall in turnout for elections to the European parliament – from 62 per cent in 1979 to 56 per cent in 1994 – together with the outcomes of the Danish and French referendums on Maastricht in 1992, suggest increasing alienation from the European ideal. Europe's leaders have done much to counteract the democratic deficit. They need now to overcome this popular deficit, which will otherwise prove a serious obstacle to European Union.

One way of achieving this would be by following the logic of Article 158 of the treaty to its conclusion and rendering the Commission fully responsible to the European parliament. That would make elections to the parliament genuinely meaningful; they would become in effect elections for a European executive. But Europeans must also be allowed to play a more direct role in governance of the Union. That could be done by amending the treaty to make future treaty amendments subject to referendum.

Europe's leaders need to give urgent attention to constitutional issues of this kind if they are to rescue the European ideal from the slough of despond into which it has fallen.

Vernon Bogdanor,
Brasenose College,
Oxford OX1 4AJ, UK

Emu hovers

From Mr A. Latham-Koenig.

Sir, Your excellent leader, "Making the EU work" (March 29), states quite correctly that the intergovernmental conference will not touch economic and monetary union. But isn't it inevitable that Emu, like Banquo's ghost, will hover over the conference and influence negotiations?

One could in fact argue that the probabilities for success or failure for the single currency – a decision on which is not due before early 1998 – will nevertheless determine the outcome of the IGC. For the prospect of success for Emu would give such a boost to the European Union that the solution of the institutional and enlargement problems would be greatly facilitated.

If, on the other hand, the single currency project looks like being postponed – which might be tantamount to its burial – then the EU would face perhaps the most critical situation since its foundation.

Alfred Latham-Koenig,
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China ignoring obligations

From Mr Nicholas Garnett.

Sir, Exactly one year ago this weekend the European Union joined the US in what was hailed at the time as a landmark intellectual property protection agreement with China. For sectors such as the recording industry in Europe, the accord appeared to be a real turning point in the battle for the right to invest in the world's single most exciting growth market. In reality, however, it has proved a big disappointment, and one which threatens the credibility of European and American trade policy.

Last year's agreement committed China to a series of measures aimed at opening the way for fair market access for foreign record companies, and at cracking down systematically on a chronic piracy problem. Yet 12 months on, despite some sporadic and no doubt well-intentioned measures by the Beijing authorities, very little has changed on the ground in China.

New laws supposed to improve market access have fallen far short of what was prescribed; there has been no promised overhaul of an inefficient matrix of enforcement agencies; barriers to joint venture investment remain intact, often in the guise of censorship rules; and the best evidence is that the piracy problem – estimated to lose the record industry revenues of $250m a year – has in fact deteriorated.

The music and information and entertainment software industries are becoming increasingly frustrated at the lack of real action in China, and they are looking to the European Commission and to the US administration for solutions.

The idea that China should be allowed to ignore international obligations is cause for grave concern going well beyond the interests of these industries. For the one-year old intellectual property agreement to retain any credibility, the EU and US must make every effort to ensure it is properly implemented.

Nic Garnett,
director general,
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54 Regent Street,
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Widespread disgust

From I. Nezis.

Sir, It is not only the fear of contracting Creutzfeldt-Jacob disease that is driving consumers away from beef. The revelations about the way in which meat is produced have caused widespread disgust, which is compounded by the prospect of slaughtering and incinerating millions of animals.

Perhaps this will make us realise that, collectively, we have the power to stop the inherent wastefulness of the meat industry. All we have to do is stop buying the stuff.

I. Nezis,
3 avenue du Prince-Heritier,
1200 Brussels,
Belgium

Protection from regulation

From Mr Walter Stanners.

Sir, In our fast-moving times, when a rightwing presidential candidate takes up the cause of cast-off workers, when a Lib-Dem spokesman is well to the left of Labour on railway nationalisation, and when the chief economist of a Japanese banking subsidiary is heard dismissing Labour's plans for employment, saying that nationalisation and regulation of job tenure would be more relevant, it is interesting to read an FT writer (Philip Stephens: "The dangers of deregulation", March 30/31) on the discovery that regulation in a complex world provides an essential protection, not only for the citizen but for business.

However, in explicitly presenting regulation in opposition to welfare ("the state as provider is replaced by the state as regulator"), he does not, it seems to me, recognise that the state needs to be committed both to welfare and to regulation. With stifling regulation (job tenure, nationalisation...), there need be no welfare. With none, there would be a choice between welfare and riots. Supposing that we want a reasonable balance, it is difficult to believe that "government may well consume a smaller share of national income", however fashionable that view may be at the moment.

Walter Stanners,
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Over,
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Chance for accountants to create strong voice

From Mr Peter Smith.

Sir, I am encouraged by proposals to revamp – as I originally called for in my letter of February 19 – the Consultative Committee of Accountancy Bodies (CCAB) to give it an enhanced role, particularly in the light of the recent failure of merger talks between the leading accounting bodies.

However, while an expanded role is to be welcomed, to date the CCAB has failed to provide any visible unity in the profession and therefore a mechanism is needed to force a common line. I am not convinced that these proposed changes alone are sufficient to give the profession the united voice it so desperately needs. A vague statement of intent is not enough.

I believe that real advances will be made only when the CCAB is opened up to public scrutiny. By adopting a "sunshine" policy, allowing a little light to shine into the darker recesses of the committee's deliberations, we will at least see where the real differences exist between the six accounting bodies, and parochial self interest will rapidly be eliminated. This might be achieved, for example, by publishing written summaries on the lines adopted by the chancellor of the exchequer and the governor of the Bank of England for their monthly meetings.

The overriding reason for rationalisation of the accounting profession is to enable it to speak with one voice to government, to the EC and to other relevant audiences. The present position sends, at best, a confused message and at worst allows the accounting profession's views to be totally ignored. At the moment we have a Tower of Babel when what is needed is the wisdom of Solomon. In a rejuvenated, open CCAB we have a golden opportunity to create greater harmonisation and a powerful, unified voice for the profession.

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FINANCIAL TIMES
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Wednesday April 3 1996

The EMI, Emu and the G7

Yesterday, the European Monetary Institute (EMI), embryo of a future European Central Bank, delivered its annual report for 1995. Yesterday also, the conference of the group of seven leading industrial countries on jobs reached its conclusion. The first reminded the world that European monetary union (Emu) remains likely. The second should remind Europe that it lacks the flexibility needed to make Emu work.

Contrary to the widespread scepticism, particularly in the UK, Emu may well happen in 1999. This is so notwithstanding the EMI's own concerns, particularly over fiscal performance, which it labels "the weakest point of convergence". Since only one country – and that Luxembourg – unambiguously met the Maastricht treaty's criteria for fiscal deficits and debt in 1995, this worry is hardly surprising. The EMI underlines the point by asserting that "in the assessment of the degree of convergence achieved, the individual criteria are to be interpreted and applied in a strict manner. The EMI Council intends to express its views independently."

Since the EMI represents the central bank governors, these warnings have some significance. But they are not decisive. The decision on whether or not Emu is to begin in 1999 – and who will then be in it – is a political one.

Fears of failure

The political leaders will be pushed towards saying yes in 1998, when the first members of Emu have to be chosen, by fears of too visible a failure, by the desire to achieve deeper European integration, by the belief that a single market requires a single currency, by German worries about the possibility of still more devaluations against the D-Mark and by French determination to gain a seat at the monetary policy table. The worries of conservative central bankers are, in the event, rather likely to be brushed aside.

The work of the EMI itself will make the step to Emu easier to take. It has already prepared a plan for the introduction of the single currency by no later than 2002. It has also started work on operation of a single monetary and foreign exchange policy, on statistics and payment systems, on the design of new notes, on harmonisation of the accounting rules of participating national banks and information and communications systems, on banking supervision and on a number of legal questions.

All of this activity is not just essential if Emu is to happen, but also makes that event more credible. It should be remembered, however, that Emu needs to be more than politically desired and technically possible. It must be economically workable. The subject of the G7 jobs conference – how to achieve job-creating growth, particularly in Europe – will be of central importance.

Fiscal consolidation

The EMI argues that fiscal consolidation – with an emphasis on long-term measures to cut Europe's excessive ratios of public spending to gross domestic product – need not hinder economic growth. That should be true, provided monetary policy takes up any slack and fiscal measures are credible. More important, however, are policies not only to lower Europe's soaring unemployment now, but to allow labour markets to adjust to economic changes in future, within Emu.

President Jacques Chirac of France talked at the meeting in Lille of a third way between US employment-creation, which sacrifices job security, and European job security, which sacrifices job creation. The Czech prime minister, Mr Vaclav Klaus, once talked of the third way between communism and capitalism as the fastest way to the third world. Does Mr Chirac's road lead anywhere more satisfactory?

The answer is that some sensible ideas are being discussed, one being the transfer of more of the burden of taxation from unskilled labour. But the debate within Europe as a whole remains caught between naive pump-priming of demand, a desire to ratchet labour-market regulations to still higher standards and hesitant acceptance of greater flexibility. These conflicts must be sorted out – and soon – if an Emu covering more than a limited number of similar core countries is to be made workable in the long run.

The road to Singapore

A carefully worded communiqué managed yesterday in Lille to paper over a threatened split between G7 employment ministers over US and French proposals that future trade agreements contain provisions on labour standards. But more than deft last-minute drafting will be needed to avert a much more damaging row if industrialised powers renew these demands at the World Trade Organisation's ministerial meeting in December in Singapore.

Developing countries, which make up most of the organisation's members, object that no clear link has been established between social conditions and trade, and no coherent case made for examining the issue in the WTO. On these points they are unquestionably right. They suspect, also probably with good reason, that the most vocal advocates of action on trade and labour standards are less interested in keeping their markets open than in seeking pretexts to close them.

Developing countries' resentment also reflects a broader concern that the west is trying to stack the WTO's workload with new issues that they perceive to be either marginal or menacing to their own interests. The US, for example, wants the Singapore meeting to tackle corporate bribery and corruption. As well as calling for a debate on labour standards, Sir Leon Brittan, the European Union's trade commissioner, wants the agenda to include global investment rules and competition policy.

Ill-advised

Confronted with this array of demands, the instinctive temptation of many poorer WTO members is to resist discussing any of them. However, such a response would be ill-advised. First, because some of the new issues are genuinely and closely linked to trade policy, and because the WTO is a proper forum for addressing them. That is certainly true of foreign direct investment, an increasingly important determinant of trade flows. It is also true of bribery, in so far as the problem reflects imperfect competition and lack of transparency in public procurement markets. By accepting such logic, developing countries could argue much more effectively against proposals to drag less worthy subjects, such as labour standards, into the WTO.

Another reason why they should adopt a more constructive approach is that the WTO, to succeed, needs a balanced agenda which meets the interests of all its members. It is true that matters such as investment rules and competition policy are primarily of concern to rich economies. But the sensible response for poorer ones is to be more forceful in tabling demands which meet their own economic needs - and demonstrably serve to strengthen the multilateral trading system.

Faster implementation

They could begin by calling for faster implementation of liberalisation agreed in the Uruguay Round. On current plans, the US will not start honouring its promise to dismantle textiles and clothing quotas until early next century. The EU has yet to commit itself to a timetable at all. Both powers – above all the EU – should be urged to accelerate the liberalisation of agriculture, particularly the elimination of export subsidies. They and other industrialised economies should also be pressed to negotiate stricter disciplines on the abuse of anti-dumping policies, which too often undermine progress made in dismantling other trade barriers.

Such demands would be harder to resist if accompanied by liberalising action by the developing countries themselves. Many are already lowering trade barriers unilaterally, or as part of wider regional groupings. They should make these measures irrevocable, by "binding" them formally in the WTO. They also need to adopt a more positive stance in the WTO negotiations on liberalising basic telecommunications and in the financial services talks which are due to resume next year.

One of the Uruguay Round's most striking achievements was to engage developing countries for the first time in trade liberalisation. They should look on the WTO's Singapore meeting as a further opportunity to advance that healthy process.

Referendum for a rainy day

Robert Peston answers key questions about the dispute in the UK over whether the people should vote on a single European currency

Referendums and European economic and monetary union are not concepts which excite the British electorate. But they excite near-hysteria in the Tory party and mild panic in the ranks of Labour.

The debate over whether the government should commit itself to holding a plebiscite on sterling's participation in a single European currency has come perilously close to bringing down the government.

The cabinet, however, after lengthy and bitter arguments, is expected today to promise a referendum. John Major, the prime minister, apparently succeeded yesterday in overcoming the deep-seated objections of Kenneth Clarke, the chancellor, who had been threatening to resign over the issue. Had he gone, Major's departure would probably have followed shortly afterwards.

Why all the fuss about a referendum?

The single currency issue is the most hotly debated in the Commons. Tory and Labour Eurosceptics fear that if sterling participated in a single currency, the British government's ability to manage the domestic economy would be severely curtailed. All the important decisions, they say, would be taken by a new European Central Bank and European finance ministers acting collectively.

Monetary union would also involve European countries giving up their respective currencies in favour of a new European unit, the infelicitously named euro. When Eurosceptics address the electorate, their most resonant argument is that no British patriot wants to give up the pound sterling for such a trashy *Euro-bauble*.

The counter-argument from the Tory left and Labour right is that the UK would be permanently consigned to the status of a second division economic power if France and Germany merged their currencies, but sterling remained outside.

When would a referendum take place?

Crucially, the cabinet is not deciding to hold a referendum immediately; it is expected to make a commitment to do so if a future Tory cabinet ever decides to participate in monetary union.

It would not take place until after the general election due by the spring of 1997, since under the monetary union timetable, those countries wishing to join a single currency have to signal their interest only at the beginning of 1998.

That implies that the UK would hold a referendum next year. However, there is doubt that monetary union will take place on schedule, so it may not become a real choice for the UK until the next century.

So who in the government wants a referendum?

First and foremost, the prime minister.

If so, why has the commitment not been made already?

Because of opposition from fellow Tories. John Major, unlike his predecessor, Lady Thatcher, rarely bangs the cabinet table to dragoon his ministers into line. He prefers to govern by consensus – which some see as a sign of weakness.

He has spent the past month building such a consensus, by holding bilateral discussions with ministers, including emergency meetings in the past two days with Clarke. He also asked the foreign secretary, Malcolm Rifkind, to write a short paper on the pros and cons of a referendum.

Why does Major want it?

His arguments are constitutional and party political. The constitutional line is that participating in a single currency would erode national sovereignty and is therefore unlike normal decisions taken by government. It would therefore be appropriate to seek ratification by the people.

The slightly less respectable – but no less powerful argument – is that only by pledging a referendum can he gloss over the deep-seated split on a single currency which has so weakened his government over the past two years.

He believes that in the run-up to a general election, he will be under enormous pressure to say where he stands on a single currency. A definitive answer is impossible.

If he says he is in favour of joining, the Eurosceptics such as Mr William Cash will go berserk, threatening to secede from the party. A commitment to stay out would prompt the pro-Europeans to rebel.

Major cannot afford to go into a general election under this cloud of uncertainty. He believes both wings can unite around the proposition that the "people must decide".

But hasn't it also got something to do with Sir James Goldsmith?

The billionaire entrepreneur, Sir James Goldsmith, played a role in bringing the issue to the fore. His new Referendum Party is threatening to field candidates in every seat where the candidates of the main parties are not in favour of a European referendum.

A national vote for the Referendum party of only 1 or 2 per cent could make the difference between victory and defeat for the Tories in a the general election, according to a paper by a junior Conservative official.

However the referendum Major wants is different from Sir James's preferred poll. Sir James is arguing that it should cover all the constitutional implications of the 1992 Maastricht Treaty, not simply monetary union. Major has ruled this out, so Sir James will probably not back off.

***Why is the chancellor so opposed to* a referendum and what is this about European salami?**

Clarke looks at the constitutional implications in a different way. He argues that the sovereignty of parliament would be undermined by submitting the monetary union decision to popular assent.

But at the root of his reservations are party political concerns. First he fears that rather than stop the battle between the sceptics and pro-Europeans, a referendum pledge would exacerbate hostilities.

"The referendum campaign would begin the moment the commitment is made," said one of his close ministerial colleagues. "The idea that the Eurosceptics would sit on their hands for 18 months is absurd."

His most fundamental objection relates to "European salami". The dwindling band of pro-Europeans in the cabinet, of whom Mr Clarke is the most committed, constantly reiterate that the Eurosceptics have captured the government "salami slice by salami slice". The chancellor's position is that a referendum pledge would be a "salami slice too far".

So strongly does he believe this that he has been threatening to resign.

Is Clarke isolated in cabinet?

The chancellor has some powerful supporters, led by Michael Heseltine, deputy prime minister, and also including Sir Patrick Mayhew, Northern Ireland secretary, John Gummer, environment secretary, and Sir George Young, transport secretary.

However, none are quite so committed as Clarke. If there is a cabinet consensus for a referendum, they will concede.

On the Eurosceptic side, Michael Portillo, defence secretary, has until recently been implacably opposed to a referendum, preferring a firm commitment against a single currency. However, he has been rebuilding his damaged reputation as a team player and has decided to agree to whatever the prime minister wants.

Is there no dissent in Labour's front bench team on the issue?

Funnily enough, there have been similar tensions in the shadow cabinet. Tony Blair, Labour's leader, had been considering making a firm referendum pledge, but Gordon Brown, the shadow chancellor, is strongly opposed. Brown fears it would undermine the party's pro-European image.

So Labour has a compromise position: it would only take sterling into a single currency if the decision had been ratified either at a general election or in a referendum. Only the Liberal Democrats are categorically in favour of a referendum.

So will Clarke resign?

Probably not, though it cannot be ruled out. Ministers believe he has been placated over the past two days by the prime minister, with the offer of a significant concession.

The chancellor feared that during a campaign in the weeks before a referendum, ministers would tear each others' eyes out over this most controversial of issues. He remembers with a shudder the bitter dispute which split the 1975 Labour cabinet before the referendum on European Community membership.

Major has therefore decided that if the cabinet were to decide to enter a single currency, all ministers would be required to abide by the convention of collective cabinet responsibility, and could not therefore argue against the currency in a referendum campaign.

However, that does not mean victory for the pro-Europeans: a Tory government would probably never make the decision to join anyway, since some of those opposed to participation – probably half the cabinet – would quit rather than sign up.

So is Major out of the woods?

Not quite. Although a referendum is popular with most of his MPs, some are implacably opposed. The veteran of the Tory left, Sir Julian Critchley, has said he would not support the government in a vote of confidence if the prime minister made the pledge. "The next task is to sell the decision to the wider world", said one of Major's close friends. "But compared to selling it to Clarke, that should be easy".

· OBSERVER ·

A match for mad cows

■ Hard work brings its own rewards, though not, it seems, for Gerry Kiely, press spokesman for Franz Fischler, the EU's agriculture commissioner. Kiely's been a great boon to Fischler, and has been pressing to leave the job – tough enough, even without mad cows – for quieter pastures in Washington. He has his eye on the post of EU agriculture attaché.

But Fischler will have none of it. Just weeks before the onset of media-mad-bovine-syndrome, Fischler ordered him to stay put – a real stroke of luck, for Fischler. Single-handedly he mastered – some say made up – the Commission's propaganda offensive during the emergency's early days.

Some even believe Fischler should have left Kiely in charge; he certainly knows his patch well enough to be able to speak his commissioner's mind, even before the boss himself knows what's in it. Fischler's first public appearance on BSE early last week was a public relations disaster. He seemed to announce the worldwide ban on British beef as a *fait accompli*, when in fact the Commission had still to decide.

The son of a farmer, Kiely cut his teeth on two previous farm commissioners, and survived major crises such as the controversial 1992 reform of the Common Agricultural Policy. Moreover, Kiely has won the hearts and minds of hacks by translating complex farm issues, like agrimonetary policy, into simple English.

Well, Irish. His broad Tipperary accent is just as pronounced when speaking French as English.

Chris stalls

■ When one Chris goes, can the other be far behind?

The South African financial rumour mill, fuelled by the resignation of finance minister Chris Liebenberg, is now busy speculating about the future of Chris Stals, governor of the Reserve Bank. The two had worked harmoniously together, and their speeches often sounded as though they had the same author.

But with Liebenberg gone, Stals's relationship with the new finance minister, Trevor Manuel, is certain to be less smooth. Manuel, the first ANC man to hold the post, is a feisty politician, and very different from the urbane, self-effacing, apolitical banker who preceded him. His first budget, in just under a year's time, is unlikely to be heard in the same respectful silence that greeted the two presented by Liebenberg, during which several MPs dozed off.

Manuel doesn't share Stals's view that the battle against inflation, successfully waged over the past three years, should take precedence over all other policy issues. And although Stals obviously enjoys his job, there would be no lack of private sector offers, should he decide to go. The smart money is on a Stals resignation – though not for several months.

Push-button panic

■ Fed up with mobile phones ceaselessly interrupting your otherwise placid existence? A minor problem, compared with that facing officers in the conscript Israeli army.

They're worried that the ubiquitous cell-phone – almost all raw recruits in the armoured corps have one, thoughtfully provided by their anxious parents – is ruining their killer instinct. "Parents equip them with cell-phones and they turn into pathetic soldiers," says one commander.

But progress has been made. At least they can no longer use them while on duty, putting a stop to what happened some time ago, when some squaddies in Lebanon called an Israeli restaurant for pizza, then drove to the border to pick it up.

Deep-fried pitch

■ Hot dogs, peanuts and beer are what you associate with American baseball. Yet business brains in the sporting world will try anything to wring money out of their fans. It is to this end that supporters of the San Francisco Giants baseball team could soon find themselves testing the outer limits of ballpark cuisine.

When the season opens at the Giants' Candlestick Park on April 12, fans are expected to be able to order gourmet dishes such as *grilled ahi tuna, smokey prime-cut* pork and tomatillos, seared *ancho-chipotle* chicken, or sweet corn and tomatoes in a mild cumin broth.

Twenty-three new dishes have been proposed for the new season, costing $3.50 to $6.75. These include old favourites in a new and sexy guise, such as *macho nachos*. Fans tired of beer may choose instead a glass of chardonnay or cabernet at $6, or a glass of Guinness pub draught at $5.75.

Call me an old red-neck, but it all sounds a mite precious.

Rubenesque

■ Rubens Ricupero, Brazil's former finance minister who now runs the UN Conference on Trade and Development (Unctad), wants to trim the fat from an organisation long accused of being flabby. Maybe he's going too far.

A questionnaire distributed at an Unctad seminar in Geneva this week invited comments not just on the quality of the speeches but also "the size of participants".

The Financial Times

100 years ago

French foreign policy

The first Order of the Day in the Senate was a notice of interpellation on the foreign policy of the Government. M. Biscueil moved the adjournment of the interpellations until after the holiday on the ground that, while a vote of confidence was not necessary to the Ministry, a hostile vote would weaken the Ministry in the conduct of foreign affairs. The motion for adjournment was rejected by 159 against 112.

50 years ago

World food shortage

Steps leading to the "present crisis in the world's food supplies" are set out in a British government paper issued yesterday. No early solution to the wheat shortage can be expected. Although some recovery in Europe is likely next season, and a repetition of the severe droughts of 1945-46 is improbable, nearly half the exportable supply in 1945-46 represented stocks accumulated in exporting countries during the war years. These are now down to the pre-war level. The shortage of rice is acute as the shortage of wheat, and supplies are entirely inadequate to meet the needs of eastern countries where rice is the staple food.

FINANCIAL TIMES
Wednesday April 3 1996

British PM wins battle over single currency vote

By Robert Peston in London

Mr John Major, the UK prime minister, is convinced that he has overcome his chancellor's objections to a referendum on joining the European single currency and will this morning urge his cabinet to make a commitment on the controversial issue.

The ministerial dispute over the referendum has been one of the most bitter since Mr Major became prime minister in 1990. Mr Kenneth Clarke, the chancellor, had been threatening to resign rather than back a referendum, a move which could have led to the government's collapse.

However there was confidence last night that the decision would be taken by ministers meeting today and that the prime minister would announce a referendum as a commitment in the Conservative party's general election manifesto.

A referendum would not be held until after the election and only if a Conservative cabinet recommended that sterling should join a single currency.

The concession offered to Mr Clarke is that in those circumstances, Eurosceptic ministers would not be able to argue against a single currency during the referendum campaign.

The prime minister held talks with Mr Clarke over the past two days and yesterday became convinced he would not resign. "There was nothing in the conversations to suggest he would take such a drastic step," said a senior government member.

The chancellor was unavailable for comment, however his basic objection was that a referendum pledge would represent a move towards Euroscepticism.

There will be more evidence of the government's growing scepticism about monetary union today when Mr Ian Lang, the trade and industry secretary, argues that completion of the European single market should take precedence over a single currency.

He will say that the difficult task of moving towards monetary union threatens to sideline the more important aim of removing barriers to free trade and extending the single market to telecommunications and energy.

Friends of Mr Clarke said they were puzzled that he had caved in, although one said: "He is not a quitter, it is not in his nature." Only days ago, the chancellor had indicated to them that the concession on gagging ministers would not satisfy him.

The prime minister is determined to make the pledge, because he is convinced that voters in a general election will want to know where the party stands on a single currency.

He has been building up support in cabinet over the past month for the referendum pledge and commissioned a short paper on the advantages and drawbacks from Mr Malcolm Rifkind, the foreign secretary, which he received over a week ago.

It says that the earliest date for a referendum would be the second half of 1997, so that the UK could indicate an intention to participate in monetary union at the beginning of 1998, in line with the EU timetable.

Most ministers believe the dispute has been largely academic, because they do not believe any Tory cabinet would ever back a single currency.

A rainy day, Page 15

NBC plans to aim TV channels at European PC users

By Raymond Snoddy

NBC, the US broadcasting group, is planning to launch a number of television channels aimed at computer users in European markets.

The group, which recently launched the CNBC 24-hour satellite business channel in Europe, has applied for a licence in Germany and has had preliminary conversations with the Independent Television Commission in the UK.

It is likely that Microsoft, the US software company, will join the venture and that programming provided by Microsoft will be shown.

The channel would offer a mixture of educational and promotional programming, presenting material on the latest computer equipment. Programming supplied by other computer companies such as IBM could be included. The target audiences would range from computer users in small- and medium-sized companies to the serious home personal computer user.

The concept is being worked on by NBC at the moment because Microsoft is preoccupied with the launch of its on-line news service – also a joint venture with NBC – in July to coincide with the Atlanta Olympics.

The on-line channel is being launched with a conventional cable channel alongside the interactive on-line service. The plan is to have a considerable degree of cross-promotion between the two channels. A similar pattern could emerge in Europe. NBC hopes a computer channel for the German market can be launched this year.

Last year the ITC in the UK gave permission for the showing of special programmes about Microsoft Windows 95 on NBC Super Channel, the 24-hour pan-European cable and satellite television channel.

Under present regulations it would be difficult to get permission to have a wholly commercial channel designed to promote a particular business sector.

But the ITC believes there is a strong argument for exceptions to be made for specialist services – such as a channel for computer users.

Such channels would also be blocked under the current European Advertising Directive – which does allow a dedicated home shopping channel. The ITC is trying to persuade Brussels to adopt a more flexible attitude on promotional channels.

If the rules are changed the ITC believes there is a way round the problem for those trying to launch computer channels. The same principle might also apply to other promotional channels.

The final form of an NBC computer channel will be influenced by the final shape of European Union regulation.

THE LEX COLUMN

Broadcasting behemoth

Yesterday's merger between Compagnie Luxembourgeoise de Télédiffusion (CLT) and Bertelsmann's television subsidiary Ufa is being billed as Europe's answer to last year's mega-media mergers in the US. This is taking things a little too far. The combination between CLT and Ufa may be the largest broadcasting group in continental Europe with revenues of over DM5bn. But it will still be dwarfed by the likes of Disney/ABC or Time Warner, if it is able to merge with Turner Broadcasting. Moreover, neither CLT nor Ufa are particularly strong in programming or packaging.

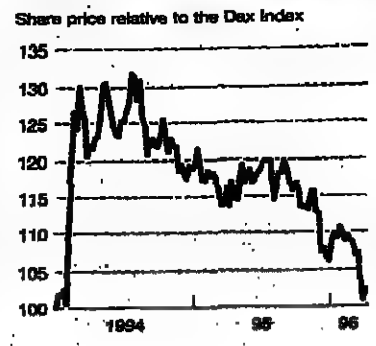
That said, the new group will have large interests in commercial TV and radio broadcasting in numerous European countries – including a stake in Britain's Channel 5. If Bertelsmann can knit together all these interests, it will have a powerful distribution network. A particular benefit from the deal is that it puts an end to the dispute over who controls RTL, Germany's largest commercial TV network; until now CLT and Ufa have been fighting for control.

The new group will have a strong position in the embryonic European pay-TV market. Until yesterday Bertelsmann and CLT had threatened to launch rival pay-TV services in Germany later this year. Last month's link between Bertelsmann, Mr Rupert Murdoch's BSkyB, Canal Plus and Havas of France left CLT out in the cold. Bringing it now into the fold should create a more formidable competitor to the Kirch Group, which has established an early lead in German pay-TV. It could even hasten talks between Bertelsmann and Kirch.

The deal underlines how Bertelsmann, long thought to be the sleeping giant of world media, has woken up. In addition to its deal with CLT, it has also made a big move into online services. Whether it is using its weight wisely remains to be seen.

FT-SE Eurotrack 200: 1688.3 (-0.5)

BMW



Source: FT Extel

BMW

That BMW managed to produce flat profits in 1995, a year when it suffered a DM1bn currency hit and the disruption of launching its new 5-series, is a tribute to the car maker's resilience. But that should not disguise the fact that its traditional upmarket duopoly with Mercedes is under increasing pressure. Ford, General Motors and Audi are all producing improved cars, with features such as airbags and anti-lock brakes as standard. That has taken them straight into the territory of BMW's 3- and 5-series. At the top end, the 7-series saloons are being squeezed by a new company car tax in Germany. In response, both Mercedes and BMW have started to move downmarket. Unlike Mercedes, which is taking advantage of its brand strength and developing its own small cars, BMW bought a volume car maker in Rover. It now faces the huge managerial task of integrating the two companies while developing distinct brand names. The admission that capital spending at Rover will run at over DM1bn a year from now on – twice initial estimates – gives an idea of the work needed. Rover's £800m price tag can probably be justified by the profitable Land Rover division alone, but the potential of the car side, which lost market share in Britain last year, is much harder to gauge.

BMW is hoping expansion into faster growing developing markets will help. But the battle for market share will be won and lost in sluggish Europe, which still accounts for 80 per cent of group earnings. There, BMW's strategy for expansion looks a lot riskier than that of Mercedes.

UK telecoms

Deutsche Telekom's motto seems to be: "In for a penny, in for a pound". The German state-owned group is not only examining the possibility of buying Mercury Communications in the event that its parent, Cable & Wireless, merges with BT; it is also thinking of buying Videotron, the UK cable communications operator which is up for sale. On paper, there is much logic in such a package deal: Mercury is Britain's second largest long-distance telecoms group; Videotron has a local network, mainly in London. Putting the two together would create a more substantial domestic competitor to BT than buying either individually. But it is something of a miracle that Deutsche Telekom is able to contemplate such investments while weighed down by DM100bn in net debt.

Moreover the deal's logic would apply not just to Deutsche Telekom but to others, such as AT&T, which are interested in building their presence in the UK telecoms market. But before any deal could be clinched, Bell Canada would have to be reckoned with. Not only does Canada's dominant telecoms group own 20 per cent of Mercury; it also owns 26 per cent of Videotron via Bell Cablemedia, its UK cable subsidiary.

Whether Bell Canada is interested in taking control of both Mercury and Videotron is a moot point; it may merely want to use its existing stakes – and any preemption rights they carry – to extract the maximum price. If so, it may even consider throwing Bell Cablemedia into the package. Such a three-in-one combination would constitute an even more powerful threat to BT. The snag is it would also cost a good £3bn.

UK brewing

Big is beautiful in brewing; Bass looks set to emerge from the latest wave of UK consolidation as by far the biggest. Potential economies of scale were shown by Scottish & Newcastle's £75m cost benefits from integrating Courage. Carlsberg-Tetley, just behind Courage in volume terms, should offer similar savings. Beyond that, Carlsberg-Tetley offers few attractions. It brings Bass a useful international partner in Carlsberg. But it is profitable only because of generous contracts for supplying beer to Allied Domecq's pubs, and the deal would leave Bass awash with standard lager.

However, all brewers should benefit. Profit margins have slumped in the face of surplus brewing capacity and increasingly powerful pub retailers. But if Bass was allowed to keep all of Carlsberg-Tetley, the two biggest brewers would control almost 70 per cent of British beer volumes – a comfortable platform for future price increases. The government may yet block the deal on monopoly grounds. But it signalled strongly with the Courage deal that competition concerns are focused on brewers' ties with pub estates rather than their share of the beer market. Besides, the government's campaign to restructure the brewing industry has done little for consumers, merely handing profits from the brewers to the pubs. This deal would help redress the balance.

Additional Lex comment on Woolwich and Littlewoods, Page 22

Beijing

Continued from Page 1

associates, and embezzling and squandering funds.

Ta Kung Pao reported that the State Auditing Administration had found a massive diversion of funds by Mr Wang, who allegedly killed himself last April while under investigation for corruption. He had misappropriated Yn4bn in the first quarter of 1995 alone as part of allegedly corrupt dealings dating back to 1986.

Beijing officials said they were making efforts to recover the lost funds, according to Ta Kung Pao, but the task is likely to prove difficult.

A western official said the scale of the Beijing scandal raised questions about the level of corruption elsewhere in China. The country's economic boom has provided ample opportunity for corrupt officials.

Road to Emu

Continued from Page 1

importance in paving the way towards monetary union."

Mr Lamfalussy said the EMI was on schedule to specify, by the end of the year, the regulatory and organisational framework for the central banking system that will run Emu's monetary policy.

One important issue he hoped would be solved by the autumn was the exchange rate relationship between countries in Emu and those outside. An early solution was necessary to safeguard Europe's single market and he hoped progress could be made at this month's informal meeting of EU finance ministers and central bank governors in Verona, Italy.

Bertelsmann deal to create Europe's biggest broadcaster

By Michael Lindemann in Bonn

Bertelsmann, one of the world's largest media groups, is to form a joint venture with the Luxembourg-based Compagnie Luxembourgeoise de Télédiffusion (CLT), to create Europe's biggest broadcaster.

Mr Mark Wössner, Bertelsmann's chief executive, described the deal as a "historic milestone" for the privately-owned company, the world's biggest media group after Time Warner and ABC/Disney of the US.

Bertelsmann and CLT said they had signed a declaration of intent, but their venture, which will have sales of over DM5bn ($3.3bn), would still need to be approved by cartel authorities.

Ufa, Bertelsmann's European film and television subsidiary, will manage the 50 per cent stake in the new, as yet unnamed venture, which has been agreed with Groupe Bruxelles Lambert, the Belgian group which controls CLT through Audiofina.

In addition to contributing its audio-visual businesses to the new joint venture, Bertelsmann will also pay Audiofina, the group which controls CLT, LFr30bn ($1bn).

Bertelsmann said Havas, the French media group which holds a 40 per cent stake in CLMM and a 20.2 per cent stake in CLT, had also agreed to the deal. The proposed venture would have stakes in RTL, Germany's most successful private broadcaster, RTL 2, Super RTL and Vox – all German-based television channels.

In addition it would have stakes in RTL 4 and 5 in the Netherlands, M6 and TMC in France and Channel 5 in the UK. Premiere, Germany's only pay-TV broadcaster, would also be included in its activities.

The move strengthens Bertelsmann's hand in its showdown with Leo Kirch, the Bavarian media mogul who controls Kirch-Gruppe, which has Europe's largest film library.

Both Bertelsmann and Kirch-Gruppe have been manoeuvring to ensure dominance of the German pay-TV market through Premiere, in which Bertelsmann and Canal Plus, the French commercial broadcaster hold 75 per cent between them.

"The new company is the answer to the challenges and chances in the international communications business," Bertelsmann said. "[These challenges] will centre on the technological revolution of digitalisation, the resulting multiplicity of programmes, the need to concentrate more on programme making and the altogether tougher competitive environment."

The proposed deal would also resolve a longstanding feud between Ufa and CLT over the respective stakes in RTL, the German broadcaster. Ufa last year raised its stake in RTL to 39.1 per cent by taking a 2 per cent stake from Burda, the German publishing group.

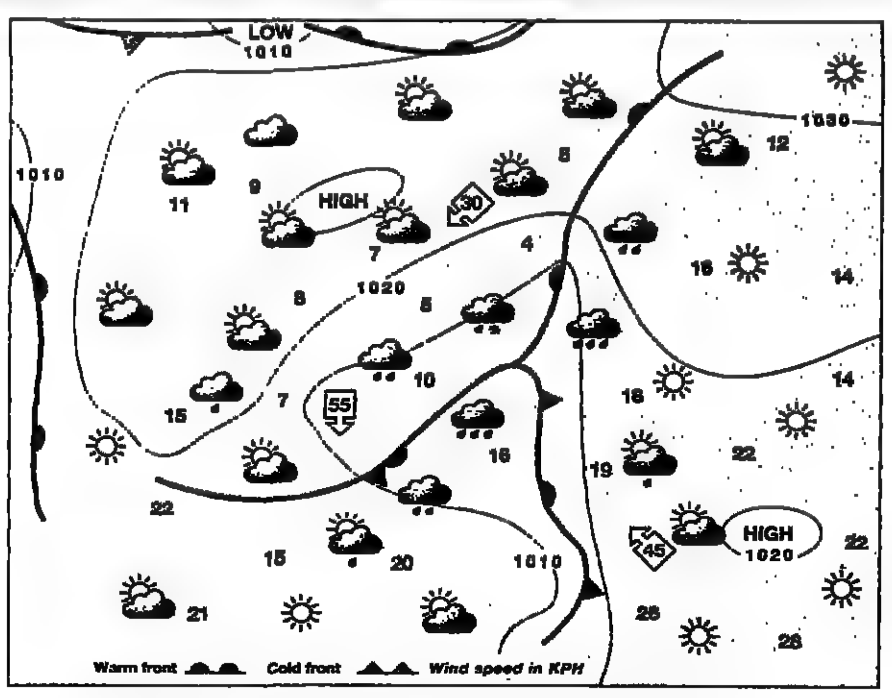
FT WEATHER GUIDE

Europe today

High pressure will sprawl from the British Isles across southern Scandinavia towards Russia. It will benefit an extensive area from the Baltic to the North Sea and southwards to the Iberian peninsula. Scotland will have a few showers and southern France will be overcast with occasional rain. A moderate north-easterly wind will move cold air from Poland into France. Southern England, northern France, the Benelux and northern Germany will be rather sunny but cold. The Iberian peninsula will be mostly sunny but considerable cloud is expected along the north coast and there will be occasional rain. A complex area of low pressure over Italy will bring rain which may be heavy to a large region from Corsica across Italy and the Alps and into Belarus.

Five-day forecast

Low pressure will move towards the southern Balkans during the next few days giving showers in Greece and western Turkey. The shores of southern Turkey will remain dry and predominantly sunny and warm. The Iberian peninsula will have occasional showers.



Situation at 12 GMT. Temperatures maximum for day. Forecasts by Meteo Consult of the Netherlands

TODAY'S TEMPERATURES

		Maximum Celsius
Abu Dhabi	sun	29
Accra	fair	32
Algiers	shower	16
Amsterdam	fair	7
Athens	cloudy	19
Atlanta	sun	28
B. Aires	fair	26
B.ham	fair	9
Bangkok	fair	38
Barcelona	sun	14
Beijing	sun	14
Belfast	fair	11
Belgrade	cloudy	16
Berlin	fair	7
Bermuda	thund	21
Bogota	fair	[illegible]
Bombay	sun	34
Brussels	sun	7
Budapest	rain	12
C.hagen	sun	6
Cairo	sun	25
Cape Town	fair	24
Caracas	cloudy	30
Cardiff	fair	9
Casablanca	fair	20
Chicago	cloudy	10
Cologne	fair	8
Dakar	sun	30
Dallas	windy	24
Delhi	sun	31
Dubai	sun	29
Dublin	fair	10
Dubrovnik	rain	17
Edinburgh	cloudy	11
Faro	fair	19
Frankfurt	cloudy	8
Geneva	shower	6
Gibraltar	fair	20
Glasgow	shower	11
Hamburg	cloudy	8
Helsinki	fair	4
Hong Kong	rain	25
Honolulu	fair	25
Istanbul	fair	18
Jakarta	cloudy	[illegible]
Jersey	sun	8
Karachi	sun	34
Kuwait	sun	28
L. Angeles	sun	19
Las Palmas	sun	24
Lima	cloudy	25
Lisbon	sun	18
London	sun	9
Lux.bourg	fair	6
Lyon	cloudy	5
Madeira	fair	22
Madrid	sun	14
Majorca	fair	13
Malta	fair	18
Manchester	fair	10
Manila	fair	34
Melbourne	fair	19
Mexico City	sun	23
Miami	sun	26
Milan	shower	10
Montreal	fair	5
Moscow	cloudy	8
Munich	drzzl	2
Nairobi	shower	27
Naples	shower	15
Nassau	cloudy	27
New York	cloudy	11
Nice	shower	13
Nicosia	sun	24
Oslo	fair	5
Paris	fair	8
Perth	sun	23
Prague	rain	3
Rangoon	fair	32
Reykjavik	cloudy	4
Rio	fair	30
Rome	rain	15
S. Frsco	sun	19
Seoul	sun	9
Singapore	shower	32
Stockholm	fair	7
Strasbourg	cloudy	7
Sydney	sun	29
Tangier	fair	18
Tel Aviv	sun	23
Tokyo	cloudy	12
Toronto	shower	5
Vancouver	shower	10
Venice	rain	10
Vienna	rain	4
Warsaw	rain	4
Washington	fair	15
Wellington	rain	17
Winnipeg	cloudy	1
Zurich	shower	5

FINANCIAL TIMES
COMPANIES & MARKETS
Wednesday April 3 1996

IN BRIEF

Ciba agrees sale of Mettler Toledo

Ciba, the Swiss drugs company, is to sell its Mettler Toledo weighing machine and laboratory equipment division to AEA Investors of the US for SFr919m ($765.8m). The disposal by Ciba, which last month announced a merger with Swiss rival Sandoz, marks the beginning of its shift from being a conglomerate in science-based industries into a pharmaceuticals and nutrition business. Page 18

Pepsi fails to induce rhapsody in blue

The finale of Pepsi-Cola's launch of its new corporate colour – blue – was greeted by silence, despite the presence of effervescent supermodels including Cindy Crawford (left), more than an hour of upbeat speeches on Pepsi's "radical change in image and attitude", and the appearance of Concorde painted in Pepsi's new corporate colour. Pepsi will ditch its red, white and blue logo and cans for predominantly blue ones in about 20 countries by the end of this year. Page 20

Arjo backs $393m Soporcel investment
Arjo Wiggins Appleton, the Anglo-French paper group, is to support a Es60bn ($393m) investment in a new paper machine to integrate all pulp production at Soporcel, Portugal's second biggest pulp and paper company. Page 19

Apple may try 'premium' path to recovery
Apple Computer, the struggling pioneer of the personal computer industry, may try to design its way out of trouble – by making machines which set it apart from the mass market. Page 20

Invesco sale helps Peregrine jump 55%
Peregrine Investments, the Hong Kong merchant bank, reported a 55 per cent rise in net profits to HK$1.01bn (US$131m) last year, bolstered by a HK$767m profit on the sale of a stake in Invesco, the UK fund manager. Page 21

Tarmac reports UK contracting upturn
Tarmac, the UK construction group, reported encouraging signs of improvement in UK contracting as it announced a 28 per cent increase in operating profit on its continuing businesses for 1995. However, construction profits slipped to just £8.2m, from £13.1m, on turnover of £938.3m. Page 22

Thorn reveals talks with Bertelsmann
Thorn EMI, the UK leisure group, held discussions this winter with Bertelsmann, the German media concern, about a possible alliance between their music divisions. Page 22

Quexco expands lead recycling in Europe
Europe's biggest lead recycling business has been formed by Quexco of the UK. It has acquired the lead business of Germany's Metallgesellschaft and recycling facilities of Italy's Enirisorse. Page 23

Companies in this issue

Market Statistics

Chief price changes yesterday

FRANKFURT (DM)			**PARIS (FFr)**		
Rises			**Rises**		
Asko Prf	735	+ 25	Bertrand Faure	171.9	+ 6.1
BASF	412.5	+ 12	Paribas A	318	+ 14.1
Berliner Kraft	418.5	+ 10.5	Valourec	260	+ 12
Linotype	135	+ 7.5	**Falls**		
Viag	611	+ 17.5	Credit Foncier	56.4	- 4.6
Falls			Credit Natl	306	- 17
SAP AG	165.5	- 15	Imm France	347.1	- 17.9
NEW YORK ($)			**TOKYO (Yen)**		
Rises			**Rises**		
Comsat	25¾	+ 1¼	Calpis Food	918	+ 58
Franklin Quest	28¾	+ 2¼	Kureha Water	2600	+ 150
[illegible]	37⅝	+ 2⅞	Nippon Eng	413	+ 24
Teledyne	33⅞	+ 5⅛	Sanwa Shutter	949	+ 37
Falls			Yokogawa B	1180	+ 50
Gen Motors	53⅞	- 3⅛	Yurtec Land	841	+ 33
Intl Harvest	48⅞	- 6⅛	**HONG KONG (HK$)**		
LONDON (Pence)			**Rises**		
Rises			Cambens Intl	8	+ 0.5
JBA Hldgs	448	+ 58	Mayer Hld	17	+ 7
National Power	151	+ 13	Sun Hung Kai	73	+ 2.5
[illegible]	413	+ 20	**Falls**		
Falls			Caimatic	0.98	- 0.07
Dragon Hill	1843	- 140	China Pacific	1.04	- 0.07
Ebert	77	- 8	Shk Ctw	6.45	- 0.25
Zotefoams	270	- 80	**BANGKOK (Baht)**		
TORONTO (C$)			**Rises**		
Rises			Kollinikor Fin	79	+ 7
[illegible]	19¼	+ 1¼	**Falls**		
Scotswood Ind	8¼	+ ⅞	Hanajinac	24.5	- 2.5
Falls			New City	28.25	- 2.75
Chemtri Comm	20	- 1½	Cuba Pahomdb	45	- 3.75
Richland A	4.9	- 0.6	Sun Hing Kong	54	- 6
Uni Cathedral	11⅜	- 1⅛	Thai Hotel	17.75	- 2.25
Wescam	2	- ⅝			

New York and Toronto prices at 11:30.

AMD warning adds to sombre US forecasts

By Richard Waters in New York

Advanced Micro Devices, the US microchip maker, yesterday added to the steady drip of sombre earnings warnings which have emanated from US companies in recent weeks.

Together with statements on Monday from International Paper and Archer-Daniels Midland that their results for the opening months of this year would not match stock market expectations, the warnings have set the stage for a mixed first-quarter results season from US companies in the coming weeks.

For shareholders in AMD, who have already seen their investments halve in value since last summer, yesterday's announcement was the latest of several disappointments. The company failed to meet market expectations with second- and third-quarter results last year, before issuing a warning ahead of the final quarter.

AMD blamed weak demand for personal computers for a decline in sales of integrated circuits. This was likely to result in lower revenues in the first three months of the year than the $593m of the previous quarter, the company said, leading to operating earnings below analysts' projections.

The news confirmed recent gloomy statements from other high-tech companies, which have issued warnings in response to slowing demand for personal computers from US consumers.

In addition, National Semiconductor, another US chip maker, announced plans to cut its workforce by 400, resulting in a charge of between 11-13 cents a share.

International Paper, meanwhile, said late on Monday that a range of factors would prevent it meeting stock market expectations of first-quarter earnings from operations of around 65 cents a share. Like many other US manufacturers, the company cut back on production during the opening months of this year in order to reduce its inventories – which has largely been behind the slowdown in the country's manufacturing sector.

The slowdown in manufacturing activity is one of the reasons why stock market analysts expect US corporate earnings growth to have slowed sharply after four years of steady gains.

Among estimates released in the past two weeks, both Ms Gail Dudack, chief investment strategist at UBS Securities, and Ms Abby Joseph Cohen, an analyst at Goldman Sachs, have predicted that operating earnings for companies in the Standard & Poor's 500 index will grow by only 8 per cent this year, compared with around 18 per cent last year. Both expect most of this growth to come in the second half of this year.

Archer-Daniels, the agribusiness group, said its results in the first six months of this year would be hit by high grain prices, caused by a poor harvest in the US last year.

BMW says tax on company cars cut sales by 20%

By Wolfgang Münchau in Munich

BMW, the German motor group, yesterday warned that a new tax on company cars in Germany has hit sales of its top models by around 20 per cent. It called for the abolition of the tax, introduced this year to help plug gaps in the federal budget.

Mr Bernd Pischetsrieder, chairman, called the tax unjustified and ill-motivated and said "on the basis of the reaction of the market we are currently assuming that there will be a drop in sales at the top end which we estimate at 20 per cent".

Mr Pischetsrieder was speaking at the company's annual news conference, where he presented a mixed picture of depressed sales and production during the first quarter, combined with a more optimistic outlook. "There was no improvement in the general economic background even at the start of the year," he said.

Car production was down 6 per cent in the first quarter compared with the same period last year. Sales fell 1 per cent, influenced in part by the relaunch of BMW's 5-series model. Mr Pischetsrieder forecast that production and sales for BMW and Rover, its UK subsidiary, should be higher this year.

Mr Volker Doppelfeld, finance director, said some cost factors would not arise again in 1996, implying that profits might rise this year.

Rover posted 1995 pre-tax profits of DM10m ($6.8m) under UK accounting principles. However, under the "stricter evaluation criteria applicable at BMW", Rover managed a loss of DM335m, compared with a DM40m surplus the previous year.

BMW Rolls-Royce, the aero engine maker, lost DM651m in 1995, DM215m more than in 1994.

Mr Doppelfeld said BMW Rolls-Royce was "running perfectly according to plan". He said deliveries of aero engines this year would lift revenues.

Last year, BMW invested DM3.5bn, with DM1.2bn invested in Rover, a 31 per cent rise.

Mr Doppelfeld said BMW was in a better shape than in the year before because the company was able to retain its earnings levels despite a worsening exchange rate. The exchange rate effect was DM1.01bn.

"This is only an indication of what could threaten German industry if the efforts to achieve a single unified currency in the European region do not succeed," he said.

Turnover of the whole group was DM46.1bn, of which Rover accounted for about DM13bn, an increase of 5.6 per cent on a comparable basis.

Production at Rover dropped 5 per cent to 367,000 vehicles, but this was more than compensated for by a 29 per cent increase in Land Rover sales to 116,000 units. Rover's sales in the UK were 3 per cent down, while in Germany sales were up 6 per cent, albeit from a low level.

The BMW brand retained its market position in Germany with 215,000 new registrations and a 6.5 per cent market share. BMW increased UK sales 21 per cent and North American sales 10 per cent.

Mr Jürgen Pieper, motor analyst at Deutsche Morgan Grenfell in Frankfurt, said: "We see a positive trend for BMW although there may be difficulties in 1997 because of the anticipated change of the 3-series model."

BMW sold 590,000 cars last year, of which 70 per cent were 3-series.

Lex, Page 16; Income tax cut urged, Page 2

Liberty chief leaves as profits fall

Ashley Ashwood

Spring clean: Liberty, the UK retailing and textiles group centred around its flagship London store (above), yesterday announced the departure of its chief executive and warned of a sharp fall in profits. Three other directors also stepped down from the board. Story, Page 22

Ottoman Bank agrees bid by Garanti

By John Barham in Ankara

Garanti Bank, the Turkish bank owned by the Doğuş group, a family-held conglomerate with activities in construction, industry and tourism, has made an agreed $245m bid for Ottoman Bank, the most venerable name in Turkish finance.

The sale follows an abortive effort to float Ottoman Bank in Istanbul last year, which triggered intense bidding for it by Turkish companies.

Paribas, the French banking group which held 49 per cent of Ottoman, was keen to dispose of its stake. The remaining 51 per cent was held mainly by passive UK institutional investors. In 1995 Ottoman reported pre-tax profits of FFr315.17m ($62.3m), down 19 per cent on 1994.

The bank was bought on a multiple of five times historic post-tax earnings – low relative to the sector – and 2.5 times 1995 book value, roughly the same multiple as Garanti.

Ms Aslihan Başaran Şen, analyst at Istanbul's Global Securities, said: "Ottoman is a profitable and reliable bank. You can find banks that are very profitable in Turkey, but it is not easy to be reliable too."

Turkish banks tend to command a premium partly because the treasury has stopped issuing new banking licences, forcing investors wishing to enter the highly profitable sector to buy existing banks.

Garanti has promised to preserve Ottoman's identity and will run the bank and its 61 branches as a separate entity. Last year, Garanti posted pre-tax profits of $210.4m equivalent, down 17 per cent from 1994.

Ottoman was founded in 1863 by French and British investors with headquarters in Paris.

Bass may buy Carlsberg-Tetley

By Roderick Oram and Simon Davies in London

Bass is negotiating to buy all of Carlsberg-Tetley, the third-largest UK brewer, in a deal which would leave Carlsberg, the Danish brewer, with a minority stake in Bass's brewing operations.

The deal, which is far more radical than the industry envisaged when Allied Domecq put its half share in Carlsberg-Tetley up for sale, is the subject of intense negotiations between Bass, Carlsberg and Allied Domecq.

Some rival brewers believe that Bass's acquisition of the whole of Carlsberg-Tetley is the only deal possible.

Bass would be able to implement sweeping rationalisation if it bought all of Carlsberg-Tetley, best known for its Carlsberg lager and Tetley bitter.

After the restructuring, Carlsberg would have a minority stake in Bass's brewing business, the UK's most profitable. Analysts believe thinning of the companies' lager portfolios is inevitable, with weak Bass brands likely to be dropped.

Bass faces difficult talks with UK competition authorities as the deal would make it the largest British brewer, with close to a 40 per cent market share.

The Office of Fair Trading never explained why it approved the S&N merger with Courage but one factor seemed to loom large: a relatively low proportion of S&N/Courage's sales was tied to S&N's pub estate. Thus free trade in beer, a goal pursued by regulators, was unimpeded.

On those grounds, a Bass/Carlsberg-Tetley deal, with some concessions stipulated by the OFT, might win regulatory approval. A relatively high percentage of Bass's output is tied to its estate but none of Carlsberg-Tetley's sales are tied.

But Carlsberg-Tetley's supply agreement with Allied Domecq is a potential sticking point. When Carlsberg and Allied merged their UK breweries in 1991, the joint venture undertook to supply beer to Allied's pubs, one of the largest UK estates, at relatively high prices.

Analysts at BZW estimate the premium is about £40 to £50 a barrel over open market prices, making the contract worth £50m-£60m a year to the joint venture.

Allied has to decide whether to take a relatively high cash sum for its stake and live with high cost beer or accept a lower sum and cheaper beer supplies.

Lex, Page 16

Barry Riley

Global banks: the big, the bad and the bust

The challenging subject of bank accounting and reporting is back in the spotlight this week. But it is not clear whether the world's big banks are taking a step forward, or just sideways.

April Fools' Day was the date for the consummation of two gigantic banking mergers. Bank of Tokyo-Mitsubishi is now the world's biggest bank, with assets of Y75,000bn (about $700bn). And Chase Manhattan, now incorporating Chemical, has become America's largest in terms of assets, which are $300bn, although Citicorp's stock market value is higher.

America's banks are once again healthy, but there are problems elsewhere. Banco di Napoli, one of Italy's largest banks, last Friday night sneaked out the worst results (a $2bn loss) ever admitted by an Italian bank. The sickness at the heart of the Japanese financial system was emphasised by the collapse and swift bailout of Tokyo's Taiheiyo Bank on the same evening.

Also on last Friday the 21 biggest Japanese banks published a list of their capital adequacy ratios, estimated for March 31. We can debate the meaning of these statistics. In most cases they do not appear to reflect fundamental accounting truth.

All we can say is that the ratios, ranging from 8.2 per cent to 10.8 per cent, represent formal claims of compliance with the Bank for International Settlements' minimum capital adequacy ratio of 8 per cent of risk-weighted assets. They imply that the Bank of Japan, which is standing behind the 21, will ensure financial stability.

In Europe, the robust Deutsche Bank last week adopted International Accounting Standards. IAS net profits of DM2.1bn ($1.4bn) for 1995 compared with a German-style net figure of DM2.2bn. No big deal there, you might think, but the future shuffling of hidden reserves will be ruled out, and previously undisclosed assets of DM20bn have been revealed.

Fudged accounting by banks used to be thought necessary to maintain the confidence of depositors in hard times. Now stability is encouraged by regulation, backed up by deposit insurance.

> In Japan and Germany balance sheet values can easily be manipulated

Even so, the results declared by banks are often not what they seem. The cynic's rule is that banks write off what they can afford, so that paradoxically, in a tough period, strong banks may declare worse operating results than weak ones. In times of financial crisis, as in war, truth is the first casualty.

The political climate is also important. This year Japanese banks want to appear poor, so they are announcing aggregate pre-tax losses of Y3,300bn (after bad debt write-offs of almost Y10,000bn) although in a similar situation a year ago they claimed to be making profits.

In countries such as Japan and Germany, where banks are big investors in their client companies' shares, balance sheet values can easily be manipulated. Japanese banks have maintained their capital ratios by selectively booking profits on ancient holdings of equities.

Their remaining unrealised capital appreciation is regarded, tacitly, as assuring solvency, although another Y20,000bn, and more realistically Y40,000bn, of bad debts have yet to be written off. But in the US or the UK fickle stock market values would not be accepted as the basis for capital compliance.

If future buyers can be found for these Japanese equities at high prices, *if* the banks can continue to make large operating profits by exploiting low deposit rates and a steep bond yield curve, and *if* the show can be kept on the road for several years, all may eventually be well.

In the meantime, Japanese banks will not be forced into drastic retrenchment and may in due course begin an international expansion again. So much for the international level playing field intended by the BIS.

This highlights the conclusions of the Banking Banana Skins opinion survey recently conducted by the Centre for the Study of Financial Innovation, a London financial think-tank. The biggest risks, according to the international opinion leaders polled, lie in overcapacity and the corresponding pressure on managements to take risks in order to protect market share.

Capital erosion ought to result in retrenchment. That is a healthy, if harsh, rule. But in Japan it does not seem to apply: not yet, anyway.

Ciba to sell Mettler Toledo for SFr919m

By Daniel Green

Ciba, the Swiss drugs company, *is to sell its Mettler* Toledo weighing machine and laboratory equipment division to AEA Investors of the US for SFr919m ($767m).

Ciba had announced in October 1995 that it planned to float Mettler Toledo, *which had* sales last year of more than SFr1bn.

The disposal is the first that will change Ciba from being a conglomerate in science-based industries into a pharmaceuticals and nutrition business. Last month it announced a merger with Basle rival Sandoz. After that merger is complete, the new company, Novartis, will spin off Ciba's *chemicals operations.*

Mr Hermann Vodicka, the Ciba executive board member responsible for Mettler Toledo, said the public offering plans had been at an "advanced stage" when the company *decided that an outright sale to* AEA was preferable.

He said that investors in a public offering would have demanded a discount on the value, adding that "it was not only a matter of money, but also concern about the future of the business".

He said Ciba had been approached by several potential buyers, of which AEA put forward proposals that made *"good business sense" for* Mettler Toledo's employees and management.

AEA is a private manager of funds for wealthy individuals including Mr Lloyd Bentsen, former US treasury secretary, *and Mr Bill Hewlett,* co-founder of electronics company Hewlett-Packard. Mr Vincent Mai, AEA's chief executive, said he intended to prepare Mettler Toledo for flotation, although this might take several years.

His plan was to expand the business in the US and Asia. In 1995, Mettler Toledo had 53 per cent of its sales in Europe, and 37 per cent in the Americas.

Mr Mai said that AEA had been studying Mettler Toledo for two years. Its acquisitions are in the $200m to $1bn range. Previous purchases include Sola International, which designs and makes spectacle *lenses. It has taken public four* companies in the past 18 months.

Ciba bought Mettler in 1980, as a specialist maker of electronic weighing machines. Further acquisitions in the same sector culminated in the purchase in 1989 of Toledo Scale, the largest US maker of industrial scales. The sale is subject to regulatory approval.

● UBS Swiss Life, the joint *unit of Union Bank of Switzer*land and Swiss Life, said it would launch a pension product in mid-May offering a flexible savings component and integrated death benefit policy with tax privileges, AFX News *writes in Zurich.*

The product will be sold through UBS Swiss Life's Profitline telephone marketing unit and will also carry an individually determined interest bonus on top of a guaranteed rate of interest. The bonus would depend on the age and habits of the policy holder, it said.

Ahold goes native in shopowner's paradise

The US will account for 60% of the Dutch retailer's sales, writes **Ronald van de Krol**

The US is a veritable paradise for a Dutch food retailer like Ahold. First, it can enjoy liberation from the restrictive shop opening hours which bedevil business in the Netherlands – Ahold's 650 supermarkets in the US are typically open 24 hours a day, seven days a week.

Second, new stores are difficult to set up in the Netherlands because of exorbitant land prices and laborious planning procedures. In contrast, the Dutch group's five US chains are free to open up new stores virtually at will, with the main restriction being the economic sense of adding new floor space.

These are just two of the reasons for Ahold's seemingly insatiable hunger for US supermarkets, underlined last week by its planned $2.9bn takeover of Stop & Shop, the leading grocery store chain in the New England region.

Another attraction of the US is the scale of takeover possi*bilities. At a stroke, Stop &* Shop will add $4.1bn in sales to Ahold's US turnover, an increase of 49 per cent.

More important, the acquisition will bring to the group a chain which is three-quarters the size of Albert Heijn, Ahold's flagship Dutch supermarket chain.

The Dutch chain, built up over the past 109 years, has captured 25 per cent of the Netherlands' market, a commanding position which *has forced Ahold to look* abroad for years for long-term growth.

Its first international foray, in 1977, was in the US. A series of later US acquisitions, topped up by the Stop & Shop pur*chase, means Ahold is now the* country's fifth-largest food retailer, and the undisputed supermarket leader on the US east coast.

In the 1990s, it turned its sights on Portugal, Poland and the Czech Republic, and *unveiled long-term ambitions* for Asia. But the US is the only country where it is easy to grow rapidly through outright acquisition.

Elsewhere, Ahold gener*ally has to take a more* painstaking, joint-venture approach.

After the completion of the Stop & Shop deal, the US will account for more than 60 per cent of Ahold's turnover.

"Ultimately, through our *Asian ambitions and a further* expansion of our European business, we will strive for a situation in which the US share [of total business] will decline," Mr Cees van der Hoeven, Ahold president, said.

Nevertheless, Ahold expects to continue to grow in the US, through building up its chains and acquisitions.

The size of the Stop & Shop purchase, the largest in Ahold's history but also the biggest US acquisition by a Dutch company in the 1990s, *means another substantial* takeover will have to wait. However, smaller deals could still be feasible.

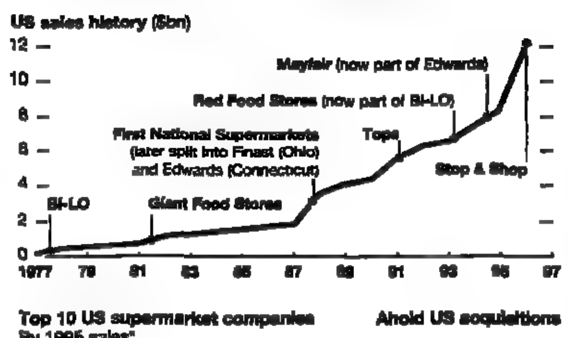
Its strategy remains focused on the east coast, but it wants to expand into neighbouring states so that it can benefit from cost-savings in warehousing, distribution and purchasing.

Mr Rob Zwartendijk, president of Ahold USA, said one of Stop & Shop's appeals, apart from its track record and geographical coverage, was that it was an experienced issuer of customer cards. The lessons learned in New England with customer cards, which are useful ways of tracking customer preferences, can be used *by other parts of Ahold in* the US.

The group's US stores can now be found from Georgia to upstate New York, but Ahold's map of the east coast still has blank spots in Virginia, Florida *Maine, New Hampshire and* Vermont. The company will not be drawn on where it may be looking next, but officials rule out a move into Canada or a westward advance.

Asked about ambitions in Detroit – *not far from existing* stores in Cleveland, Ohio – Mr Zwartendijk said: "We plan to concentrate very firmly on the east coast. For us, Detroit is already a bit in the Midwest."

Twenty years of US expansion



Top 10 US supermarket companies By 1995 sales*

Kroger	23.7
American Stores	18.2
Safeway	16.3
Wal-Mart Supercenters	13.5
Ahold and Stop & Shop	12.4
Albertson's	12.0
Winn-Dixie Stores	11.8
A&P	10.3
Publix Supermarkets	9.4
Food Lion	8.2

* excludes nonsalable sales

Ahold US acquisitions

1977	BI-LO
1981	Giant Food Stores
1988	First National Supermarkets
1991	Tops Markets
1994	Red Food Stores
1996	Mayfair
1996	Stop & Shop

Source: Ahold

Ahold catchment areas

Solvay surprises with 46% advance

By Jenny Luesby

Solvay, Belgium's largest chemicals company, lifted pretax profits 46 per cent last year to BFr25.84 ($848m), because of a strong world market for alkalis and the take-off of its anti-depressant drug, Floxyfral. The company's shares rose BFr175, to close at BFr17,675, in anticipation of the results.

With bulk plastics accounting for more than a third of the company's business, a disappointing second half had previously been expected.

Plastics margins had suffered, said the company, dropping to "a very inadequate level by the end of the year". However, the alkali and healthcare businesses had performed strongly all year, especially outside Europe.

With alkalis accounting for 28 per cent of sales and 39 per cent of operating profits last year, the company predicted further growth in alkali profits this year. Prices of caustic soda were still rising in the US, it said. It also pointed to recovery in the markets for its three bulk plastics, PVC, polyethylene and polypropylene.

However, it was downbeat about the prospects for its plastics processing business, where *demand stayed weak,* particularly in the DIY and interior decoration market.

In healthcare, sales of Floxyfral, known as Luvox in the US, rose 38 per cent to BFr3.5bn, with the first year *of full launch in the US gener*ating sales of $35m.

Sales outside Europe had risen to a third of total turnover last year, the group said, compared with one quarter in 1991. Overall, sales rose by 4 *per cent, to BFr273.35bn.*

A 14 per cent increase in consolidated cashflow, to BFr30.77bn, had enabled the group to cut gearing from 27.6 per cent in 1994 to 24.2 per cent last year. This reduced *financial charges* to BFr3.91bn, from BFr5.05bn in 1994.

Earnings per share rose 84 per cent to BFr1475. The group proposed a net dividend of BFr550.

NEWS DIGEST

Higher sales help Cogema rise 15.8%

Cogema, France's state-controlled nuclear fuel company, reported a 15.8 per cent increase in net profit to FFr973m ($193m) last year, based on rising sales, mainly of uranium enrichment services for foreign customers, which also grew 15.8 per cent to reach FFr30.6bn in 1995. The group said the higher turnover raised use of its fuel recycling plant at La Hague to near full capacity. But in line with President Jacques Chirac's decision to stop manufacture of nuclear warheads after the recent test series, Cogema is to close down fabrication of highly-enriched uranium at Pierrelatte this year and to shut its Marcoule recycling plant next year.

Cogema said that, in line with its policy of investing to cover future nuclear plant dismantling costs and forging industrial partnerships, it had taken a 3.4 per cent stake in the Usinor-Sacilor steel company and a 7.5 per cent stake in Sagem, the electronics group. Cogema and Total already have cross-shareholdings in each other, following the French oil company's sale of its uranium mines to Cogema.

David Buchan, Paris

Electricidade de Portugal surges

Electricidade de Portugal, the state power utility due to be partially privatised within a year, more than doubled net consolidated profit from Es30.5bn to Es66.3bn ($433m) in 1995. The group yesterday forecast a similar profit level in 1996, despite tariff cuts in real terms. Electricity consumption rose 4.8 per cent last year but sales increased only 3 per cent to Es528bn as a result of lower tariffs. Cash flow rose 58 per cent to Es198bn. The group lowered its debt by Es91bn in 1995 to Es680bn. Total assets were almost Es2,400bn.

Peter Wise, Lisbon

Trustor rejects Sandvik bid

Trustor, the Swedish industrial holding company, said its shares in Kanthal were not for sale, rejecting a SKr120 a share bid for the unit from Sandvik, the Swedish tools and speciality steels group. Trustor has a majority stake in Kanthal, a Swedish heating wire group, with about 50 per cent of voting rights. Mr Claes Aake Hedstroem, Sandvik chief executive, *told the news agency Direkt its bid still stood despite Trustor's* rejection. *AFX News, Stockholm*

Hugo Boss advances

Hugo Boss, the German clothing company, said net profit rose 10.7 per cent from DM52.4m to DM58m in 1995. Sales rose 5.1 *per cent from DM857m to DM900m. Allowing for exchange rate* fluctuations, sales rose 8.5 per cent. Earnings per share calculated according to the DVFA formula rose from DM86 the previous year to DM97. The company proposed raising the dividend per ordinary share from DM34 to DM41 and from DM35.5 per preference share to DM42.5. The company said it expected stable sales for 1996. Net profit in 1996 would remain at a high level. *AFX News, Metzingen*

Swiss confectionery group ahead

Chocoladefabriken Lindt & Sprüngli, the Swiss confectionery group, increased net profits 11.3 per cent from SFr38.1m to SFr42.4m ($35.5m) in 1995, on sales up from SFr863m to SFr920m. The dividend was raised from SFr205 to SFr250. Mr Ernst Tanner, chief executive, said he was confident of further positive developments in earnings in 1996. The company proposed a 1995 dividend per participation certificate of SFr25, up from SFr20.50. Parent net profit fell from SFr17.95m to SFr16.98m. *AFX News, Kilchberg*

Soporcel plans to invest Es60bn as earnings surge

By Peter Wise in Lisbon

Arjo Wiggins Appleton, the Anglo-French paper group, is to support a Es60bn ($392m) investment in a new paper machine to integrate pulp production at Soporcel, Portugal's second biggest pulp and paper company.

Soporcel, announcing a threefold increase in net profits last year to Es11.2bn, said yesterday AWA had made a strategic decision not to sell its 43.3 per cent stake in the Portuguese group and would back plans to buy a second machine to make uncoated paper by 2000.

Doubt had earlier been cast on AWA's retaining its holding in state-controlled Soporcel, amid a planned reorganisation of the group's European manufacturing operations.

Mr Alvaro Barreto, Soporcel chairman, said the second machine would enable the company to integrate all of a projected annual production of 650,000 tonnes of bleached eucalyptus pulp into its paper making operations. Soporcel uses about 48 per cent of its annual pulp production of 450,000 tonnes in paper making.

Full integration would place Soporcel among Europe's top three office paper producers and was an essential step to remaining competitive as the production of similar short fibre pulp at much lower costs expanded in Brazil and Indonesia, Mr Barreto said.

Soporcel's sales rose 31 per cent to Es76bn last year from Es58.3bn in 1994, due mainly to a 47 per cent increase in the average price of eucalyptus pulp. Paper prices rose about 30 per cent. However, volume sales of pulp and paper fell slightly to 220,000 tonnes and 258,800 tonnes, respectively.

The group, forecasting a drop in pulp sales to 210,000 tonnes this year, said the average pulp price would be substantially below the 1995 level this year. Prices started falling sharply in the last quarter of 1995 – largely because paper companies began destocking – dropping from a high of Ecu730 a tonne last August to about Ecu350 at present.

Net profit grew from Es3.5bn to Es11.2bn and operating profits increased from Es10.3bn to Es16.1bn last year. Operating costs rose from Es38.6bn to Es45.3bn as raw material costs increased and the group applied maximum depreciation rates on assets due to full use of production capacity.

Cash flow increased from Es12.6bn to Es25.8bn. Much of this was used to lower the group's debt, which fell from Es73.5bn in 1994 to Es57.2bn. Financial costs fell from Es7bn to Es5bn.

BT/C&W merger talks raise concerns in Germany

The UK operators have competing interests in the country's telecoms sector, writes Michael Lindemann

Talks between British Telecommunications and Cable and Wireless about a possible merger have caused considerable concern in boardrooms across Germany, where both UK operators have extensive – and fiercely competing – interests.

Should BT and C&W agree a deal, the merged operation would be committed to two rival German telecoms alliances, built up by three of the country's most powerful companies: Veba, RWE and Viag.

Since last January, C&W has been committed to a telecoms alliance with Veba, the electricity, chemicals and telecoms group. C&W holds a 45 per cent stake in Vebacom, the group's telecoms subsidiary, and Veba holds a 10.5 per cent stake in C&W, making it C&W's biggest shareholder.

The equity link, and the fact that Mr Ulrich Hartmann, Veba's chief executive, sits on C&W's board, means, as one telecoms executive pointed out, "there is no closer relationship between a German company and a British company of that size". BT, on the other hand, decided last January to join up with Viag, the Munich based group built around the Bayernwerk utility, which has close links to the powerful Bavarian state government. Last May, the two partners created a joint venture, Viag InterKom, in which they both hold a 37.5 per cent stake.

That operation was expanded in February when BT and Viag signed a letter of intent with RWE, another of Germany's leading electricity and industrial conglomerates.

As one RWE executive put it, the three partners are "working overtime" to flesh out the letter of intent and create a venture which they hope to have operating by the middle of this year.

The proposed joint venture would be divided into four operations – an overall management company, two units servicing corporate and residential clients and a company managing the networks, RWE said.

BT, Viag and RWE would have equal stakes in the new companies and management responsibility would depend on relative strengths. RWE, for instance, hopes to take the lead in the companies which service residential clients and operate the networks.

Who, then, does Mr Peter Bonfield, BT's chief executive, settle for if BT reaches a deal with C&W?

RWE and Viag might have good reason to be nervous, given that their links with BT may have been created with the best intentions but are not yet cemented by the sort of equity swap which has taken place between Veba and C&W.

Both companies, however, insisted yesterday that their tie-up with BT was progressing as planned.

Mr Franz Josef Schmitt, the RWE board member responsible for telecoms, met Mr Pat Gallagher, BT's director of business development, on Monday for what was described as a "routine" meeting.

"We have had an additional, more substantial commitment from BT that it plans to continue with the existing projects," a senior RWE executive said.

If BT feels committed to RWE and Viag, what does it do about Veba? The Düsseldorf based group has indicated it would not be satisfied with a smaller stake in a merged BT/C&W operation.

Veba last week announced record profits of DM2.1bn ($1.4bn) and said it planned to invest DM6.7bn this year. The group's planned investments, according to one Veba executive, were always deliberately kept below the group's cash flow – around DM8.5bn – so that "we have a little extra room for manoeuvre".

Withdrawing from operations like Viag InterKom would prove legally difficult for BT. Lumping all three German companies into one alliance, which would then compete against Deutsche Telekom, the state-owned operator, is unlikely to be acceptable in Germany, given that the three would dwarf Deutsche Telekom in terms of financial muscle.

● JANUARY '95 C&W teams with Veba ● JANUARY '96 BT links with Viag ● FEBRUARY '96 RWE joins BT and Viag ● SPRING '96 Does BT jilt Veba, or RWE and Viag?

Germany's cartel authority refused to comment on what it called a "hypothetical situation", adding only that any deal of that kind would be referred to European Union authorities in Brussels because of its size.

The logic behind a BT/C&W merger will, it seems, be the attractive overlaps in the US and Asian markets, not least C&W's 58 per cent stake in Hong Kong Telecom.

"As a strategic, global solution, C&W is vital for BT," said one German telecoms executive. "The solution to the problems in Germany will be secondary. Besides, BT has the added advantage that it can choose who it does business with in Germany."

See Lex

Böhler-Uddeholm sale given warm reception

By Antonia Sharpe

Austria's privatisation programme has received a welcome boost from the successful sale of shares in Böhler-Uddeholm, a leading producer of specialist steel.

Demand from international investors was such that OIAG, the state industrial holding company, sold off more of the company than it had originally intended.

OIAG had planned to reduce its stake from 72.7 per cent to 45 per cent, but the strong interest enabled it to cut its stake to 25 per cent. The transaction of 5.25m shares, priced at Sch785 each late last week, raised Sch4.1bn ($393m), making it the largest Austrian share offering since the $650m privatisation of VA Technologie, the plant engineering group, in May 1994.

Shares in Böhler-Uddeholm yesterday rose Sch24 to Sch835 as investors tried to buy stock in the market.

Bankers said the offering had been about five times oversubscribed. Creditanstalt, SBC Warburg and CS First Boston were the advisers.

Apple may turn its back on mass market

By Christopher Parkes in Los Angeles

Apple Computer, the struggling pioneer of the personal computer industry, may try to design its way out of trouble – by making tough, elegant and reliable machines which set it apart from the mass market.

With the aim of charging a "small premium" over computers from rivals such as Compaq and Gateway 2000, Mr Gilbert Amelio, the recently-appointed chief executive has told staff he wants Apple to become the Mag-Lite of the PC industry.

Mag-Lite is a premium-priced, finely engineered flashlight that stands out in a commodity-type market dominated by cheap, often throw-away devices.

Mr Amelio, who last month warned second-quarter losses would mount to about $700m, but simultaneously pronounced Apple's problems "fixable", recently outlined his idea to a group of employees.

He told them that the company, which made its name in leading-edge technology, could no longer compete effectively with companies that relied on Intel and Microsoft for core competencies in chips and software, while Apple had to support higher research and development costs for its hardware and operating system.

Mr Amelio's proposal, which may form part of a grand recovery strategy to be announced in May on completion of Mr Amelio's first 100 days in office, would represent a sharp reversal of the tactics adopted by his predecessor, Mr Michael Spindler. In the closing months of his tenure, Mr Spindler slashed prices of Apple's Macintosh range in an attempt to clear stocks and bolster market share.

The failure of this move was underlined by Mr Amelio's first substantial statement at the end of last month, when he issued the profits warning based on the need to restructure and run down inventories.

Apple had stocks worth $1.9bn at the end of the first quarter, half in components and half in finished computers.

After a loss in the first three months of $69m, statements from the company suggested the number of job losses – previously set at 1,300, or 9 per cent of the workforce – might be increased.

Further details of restructuring are not expected until Mr Amelio's May statement, although the expected write-off for labour cuts has been increased from $125m to $175m.

Though the Apple brand still enjoys considerable kudos among devotees and in some professional markets, analysts suggested the group might have difficulties persuading buyers to pay a premium for design and reliability.

While Apple retains a technological lead over its mass-market competitors by some measures, the gap has been closed substantially by Microsoft, which last year launched its Windows 95 operating system and is understood to be preparing an update as early as next year.

Flat reception for true blue Pepsi relaunch

By Roderick Oram, Consumer Industries Editor

Stony silence greeted the finale yesterday of Pepsi-Cola's extravagant launch of its "radical change in image and attitude".

As the temporary stage in a hangar at London's Gatwick airport pulled back to reveal a blue Concorde airliner, barely a murmur was heard from the audience of hundreds of trade customers, journalists and Pepsi personnel from around the world.

Bombarded by more than an hour of upbeat speeches, effervescent supermodels and frantic images of teenagers knocking back Pepsi products, Concorde in Pepsi's new corporate colour – the key to its rejuvenation and renewed attack on Coca-Cola – seemed to some like an anti-climax.

"Project Blue represents a quantum leap into the future and redefines how the cola wars will be fought in the 21st century," Mr John Swanhaus, Pepsi-Cola's senior vice-president of international sales and marketing, said as the presentation built to its climax.

In some 20 countries by the end of this year, and the rest of the world except the US and Canada by the end of next, Pepsi will have ditched its red, white and blue logo and cans for predominantly blue ones. This, it believes, is the colour of "style, refreshment and modernity".

It is trying to appeal to teenagers – "the most important consumers of today and tomorrow", Mr Swanhaus said.

For years, Pepsi had trailed far behind Coca-Cola in global soft drinks markets, enjoying dominance over its red rival in only a handful of minor markets. It hopes to fight back by branding itself as the drink of the hip and young.

"It's very clear that Coke is the dominant international player with Pepsi as the always-distant number two," said Ms Jennifer Solomon, the soft drinks analyst with Salomon Brothers in New York. "But Pepsi is getting savvier."

The themes and colour are taken from Pepsi Max, the sugarless soft drink first launched in the UK several years ago. Popular for tasting better than diet colas, it has been the one success in Pepsi's portfolio in recent years.

Pepsi said it was a $500m launch, but that figure appears to include all costs, from higher advertising and marketing spending to installation of more vending machines and painting blue some 30,000 trucks.

The UK spend, for example, will rise 50 per cent to £35m ($53.4m) this year. A large part of that will be on direct advertising and marketing and the balance on ancillary activities.

Aetna purchase highlights a growing trend

Acquisition of US Healthcare may create national managed care group, writes Lisa Bransten

Fierce competition and shrinking profit margins are driving the US healthcare sector. This was highlighted this week when Aetna – once a traditional insurer – spent nearly $9bn on buying US Healthcare, the managed healthcare group.

That trend is expected to gain momentum, as big healthcare groups bolster membership by buying the small, regional, managed care groups that emerged during the mid-1990s.

Mr Bob Eicher, a principal at Foster Higgins, an employee benefit consulting group, says the number of healthcare organisations will shrink from the current 1,500 to less than 100 over the next five years.

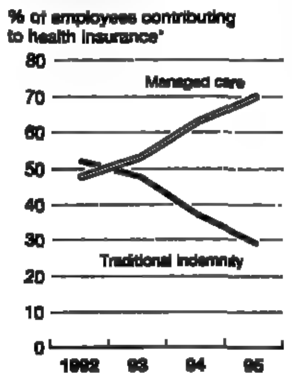
The healthcare revolution in the US gathered steam in the early 1990s, as private healthcare purchasers – generally, those companies responsible for covering their workers – turned to managed care to control costs. Managed care groups, such as health maintenance organisations (HMOs), grew by offering lower premiums, achieved by requiring patients to choose among certain groups of doctors, hospitals or other providers.

Enrolment in HMOs soared, as did their profitability. From 1987 to 1990 HMOs outperformed the Standard & Poor's 500 by 450 per cent.

But at the start of last year, their profit margins began to shrink, as US corporations with large pools of potential members used their leverage to negotiate lower premiums. Last year the average cost of HMO cover fell 3.8 per cent, to $3,385 per active employee, according to Foster Higgins' annual survey. It was the first decline since the survey began in 1985.

"The predominant mind-set among senior executives at major managed care firms is to obtain economies of scale by cutting costs and expanding market share," says Mr Gary Frazier, a healthcare analyst at Bear Stearns, the US investment bank. One of the primary benefits for US Healthcare in its merger with Aetna will be access to the insurer's roster of big companies with employees across the US – creating what may become the first national managed care group.

The rise of managed health care



*Companies with 10 or more employees
Source: Foster Higgins

Other large managed care groups are also rushing to build multi-regional organisations. Last year, United Healthcare, the biggest US private managed care group before the Aetna deal, moved into the north-east from its base in the Midwest by buying MetraHealth, the combined health insurance businesses of traditional insurers Met Life and Travelers Group.

More evidence of the appetite for mergers comes from the non-profit Blue Cross and Blue Shield network of insurers, which has been losing money as its independent members compete with better-managed, publicly-traded companies. In 1994, the system lost $104m, even as it moved from providing traditional insurance into managed care.

In the past five years a number of the Blues, such as Blue Cross of California, have moved into the "for-profit" sector to give them the stock and access to financing that will allow them to buy smaller providers and remain competitive. The number of Blue Cross/Blue Shield insurers has shrunk from more than 80 to 63 in that time.

Rising cost pressures have also led managed care groups to look to strategic partnerships with healthcare providers as a way to control costs.

Last week, for example, Blue Cross and Blue Shield of Ohio agreed to be acquired by Columbia/HCA, the largest for-profit hospital group in the US, for $230m.

This strategy of vertical integration is seen as more risky than the merger of similar healthcare groups. It could be especially dangerous for Columbia, which might lose business from competing insurers that would view its hospitals as competitors rather than partners.

It is an experiment, says Mr Curtis Lane, healthcare banker at Bear Stearns. It could be risky, "but if you're not getting the volume from other HMOs anyway, then you're not worried about losing it".

For both healthcare providers and the managed care groups that pay them, the goal is to find ways to reduce costs, he says.

Canadian cable-TV groups to form link

By Bernard Simon in Toronto

More than 100 Canadian cable-TV operators plan to co-ordinate marketing, research and other activities with the aim of strengthening their hand in the intensifying competition against the country's powerful telephone companies.

Members of the Canadian Cable-TV Association said yesterday they were setting up a new company, to be known as vision.com, to challenge Stentor, the consortium created by the regional phone companies in the early 1990s.

"We hope to accomplish together what none of us could accomplish separately," said Mr Ted Rogers, chairman of Rogers Communications, the biggest cable operator.

The joint venture will focus on giving the cable industry a competitive edge in three main areas: Internet access, interactive TV and local phone service.

Vision.com will function as a franchisor, licensing products and services to local cable companies. A crucial part of its work will be to develop national standards for cable equipment, such as modems and the digital video compression boxes required for interactive TV.

It will also seek to establish well-recognised national brands.

Cable-TV is available to more than 80 per cent of Canadian homes, the highest penetration in the world. The industry has invested heavily in recent years in a fibre-optic cable distribution network, which offers greater speed and capacity than conventional phone lines.

But the phone companies' financial and marketing muscle have so far given them an advantage in the convergence of phone and cable technologies.

The cable industry plans to invest C$4bn-C$5bn (US$2.9bn-US$3.6bn) over the next five years, mainly to upgrade the distribution network, introduce high-speed access for computers, digital video compression, and prepare for entry into the local phone market.

The 10 largest cable operators will each name one director to vision.com's board. Another two directors will represent the interests of small English and French-language operators. Votes will be based on each company's size.

NEWS DIGEST

Allegheny-Teledyne takeover detailed

The conglomerate formed by the agreed all-share takeover of California's Teledyne by Allegheny Ludlum of Pennsylvania will comprise two groups that will in effect be separate. Teledyne's technology interests, including aviation and electronics, will continue to be run from Century City, near Los Angeles, while its speciality metals business is expected to be folded into Allegheny's core stainless steel business.

Observers said that given Allegheny's much-praised strategy to date of concentrating on metals, this raised the possibility of a sale of the Californian arm at some stage. Although company officials said there were no such plans, there is a lively market in defence-related electronics assets, and Allegheny, which made its first approaches a year ago, had previously said it was interested only in Teledyne's special metals.

Its appetite had been further whetted by revelations – during a long-running takeover siege staged by WHX – that Teledyne had a substantial surplus in its pension fund, while Allegheny's scheme was underfunded.

The takeover transaction, valued at $3.2bn, will create a group – Allegheny Teledyne Inc – with total annual sales worth $4bn, of which about $2.4bn will come from metals. Apart from aviation and electronics equipment, Teledyne also manufactures an assortment of industrial and consumer products.

Executives said synergies would result in an aggregate increase of $85m in pre-tax profits. The deal appears to conclude Teledyne's battle – which has lasted more than a year – to fend off the unwelcome attentions of WHX, parent of the Wheeling-Pittsburg steel group, which opened its bidding with a $1.2bn offer in late 1994. Its latest offer, worth $1.78bn, was made and rejected in February, when WHX threatened to counter with a campaign to oust the Teledyne board.

Christopher Parkes, Los Angeles

SWP shares up as trading starts

Shares in Saskatchewan Wheat Pool, Canada's biggest farm co-operative, went immediately to a C$2 premium over the C$12 offer price when trading began on the Toronto Stock Exchange yesterday. The farmers of Saskatchewan, Canada's biggest wheat producing province, had fully-owned the grain-handling co-operative since 1924. Mr Leroy Larsen led the move to go public despite the protests of many member farmers.

"It's a big culture change but we'll benefit from a larger and more diverse shareholder base," Mr Larsen said. "We must compete and grow the business profitability." Besides running more than 500 grain elevators, SWP operates farm supply centres and owns interests in several food processors, an ethanol producer and other businesses. It has nearly one-third of the western Canada grain handling business.

In the year ended July 31 1995, net profit was C$32.6m (US$24.1m) or C$1.20 a share on the new B stock, on revenues of almost C$4bn. SWP is now closing outdated grain elevators and centralising its handling system.

The company's capital is now structured into class A voting stock, all held by the member farmers, and nearly 30m class B non-voting shares valued in the market yesterday at more than C$400m.

The farmers and employees took up about 60 per cent of the B shares and outside investors were offered 12.8m at C$12 a share for a total value of about C$154m.

Robert Gibbens, Montreal

Canada air traffic sale complete

The Canadian government has completed the sale of the air traffic control systems at the country's main airports to Nav Canada, which is controlled by several airlines, the air traffic controllers and private aircraft operators, for C$1.5bn (US$1.1bn). The government will retain a regulatory role after the July 1 handover.

Nav Canada is raising nearly C$3bn by an issue of debt securities, mainly in Canada, for which RBC Dominion Securities is the lead underwriter. The funds will be used for the purchase and also for operations. Nav Canada will set fees to recover all costs and will be operated as a private utility.

Robert Gibbens

SA bank to mrket US cash management systems

By Mark Ashurst in Johannesburg

First National Bank of Southern Africa has secured exclusive access to the sub-Saharan region to sell the global electronic cash management systems of Chase Manhattan Bank and Bank of America under its own label.

Private labelling in the banking market has been spreading, as many banks find it too expensive to develop their own international treasury systems. Chase, for example, has already sold its private label electronic banking system to clients such as Westpac of Australia and US Trust.

But FNB's deal is believed to be the first to gran single foreign bank access to the tworks of the two US rivals.

"This is t most complex of any private labeg deal with American banks," sai r Jay Runewitsch, an independen nsultant advising First National B. "South Africa is a very speci situation and I don't think eit Chase or BoA will actively s t this kind of arrangement any re else."

FNB do ates electronic banking in southe Africa and has invested about R? ($6.25m) in developing these se es for corporate clients over the t five years. Its deal with the US anks reflects growing demand from local corporations for international cash management services, and stiffer competition from foreign banks, as South Africa returns to the global economy.

Mr Barry Swart, FNB managing director, said the new product, FirstWorld, would combine treasury systems and electronic funds transfer with FNB's domestic services. "Neither Chase nor BoA uses the system we've got. FirstWorld is a combination of all three products."

FirstWorld will enable electronic payments and multi-currency foreign exchange transactions to be processed in about 25 seconds, via a permanent telecommunications link leased from British Telecommunications. The number of transactions, which previously took between 24 hours and 48 hours to complete, is expected to multiply when exchange controls are abolished.

The new products will supersede the cash management services offered by FirstCorp, the merchant banking operation acquired from Citibank when the US multinational quit South Africa in 1988. Its return last year was the catalyst for FNB to develop its own international cash management systems.

"Our business would automatically have gone back to Citibank if we had not updated the old Citibank systems inherited in the 1980s," said Mr David Meadows, vice-president of FirstCorp, which last year processed about 90,000 transactions on behalf of 10 of South Africa's largest mining, manufacturing and retail conglomerates.

Citibank, the biggest of the foreign banks in South Africa, had declined an approach from FNB to franchise its cash management systems.

Mr Mark Taylor, executive vice-president of global payment services at Bank of America, said he hoped the deal would form a basis for closer collaboration with FNB in future. "The fact that this is a non-exclusive contract means that we're still in discussion," he said.

Bid consortim invites Cairo to put up or shut up

Ministers will have to shw that they are serious about privatisation

Egypt's much vaunted commitment to privatisation will be tested in the next few days as the government decides whether to give the green light to the first majority sale of a state asset through the Cairo Stock Exchange.

In the first offer of its kind in Egypt, a consortium of local and foreign investors has put together a formal bid to buy a 65 per cent stake in the Alexandria Portland Cement Company.

The initial offer is priced according to last week's closing share price of E£354, which values the stake at E£230m ($93.6m).

Although more than 60 per cent of the money raised will come from local participants in the consortium, which is led by a leading local merchant bank, the Egyptian Financial Group, some of the best-known UK and US global and emerging market investors are included.

Until now, the Egyptian government has been reluctant to push ahea ith full-scale privatisatior fear of losing control of industrial sector and creatin ass unemployment.

Out of a of more than 300 state asse slated for sale, only thre ompanies have been fully d – wholesale, to other con ies – since 1991, when Eg embarked upon wide-ra ng economic reforms, oved by the International netary Fund and the Wor ank.

Sixtee others, including Alexand Cement, have been only p ally privatised, by the sal 10 per cent tranches of equ to private investors throu the local stock excha

With the appointment of a new prime minister, Mr Kamal el-Ganz i, at the beginning of this r the government has repe dly indicated that its pri isation programme wo be faster and would cut dee into the public sector.

In February, it published a long-awaited list of state companies it wants to sell, including a majority sale of Alexandria Cement – 80 per cent owned by the state's Holding Company for Chemicals, with 10 per cent held in a trust for its employees.

Despite such public posturing, members of the consortium are taking care not to second guess a government which has been notoriously slow in responding to private sector initiatives.

"The bid [for Alexandria Cement] is a perfect opportunity for the government to show it is serious about privatisation. It will break the log-jam in privatisation and encourage more investors to look seriously at the value of some of the companies being offered," says one foreign investor in the consortium.

"If it is rejected, it will make a mockery of what they have been saying publicly," he adds.

In the last fiscal year, Alexandria Cement reported a 69 per cent increase in net profits – from E£31.5m to E£53.2m – as a result of rising cement prices, lower provisions and repayment of its all debts. Sales increased 13 per cent from E£127.2m to E£144m.

As well as attractive cash reserves, it owns a sizeable stake in another Egyptian cement company, Suez Cement.

Although the company is widely felt to be overstaffed, with 1,537 employees, the consortium has pledged that it would not force any redundancies and would proceed with an expansion programme to double capacity to 1.5m tons over the next three years.

Although the bid has not been officially announced, the target's share price has moved against the market, closing at 3 per cent above the bid price. The market has dropped 2 per cent since last Thursday.

James Whittington

Ashley Ashwood

Ready for action: Cairo's bourse, where state stake would be sold

NEWS DIGEST

Newcrest rejects Normandy plan

Newcrest Mining, the Australian gold producer, yesterday rejected proposals from Normandy Group to break the stalemate between the two companies over merger plans. Newcrest directors said, however, that they were still prepared to discuss a merger if certain conditions were fulfilled. They recommended formal discussions be started between the two.

The Newcrest statement followed on offer on Monday from Normandy's chairman, Mr Robert Champion de Crespigny, to include Newcrest in a merger. But he said Newcrest would first be required to support a merger of the four Normandy Group companies. Newcrest has already rejected the four-way merger plan after spending more than A$450m (US$354m) this year to buy strategic stakes in two of the Normandy companies from Minorco, the South African mining house.

Newcrest said yesterday: "The basis on which Newcrest would be prepared to enter into merger negotiations is that they lead to a binding agreement prior to the Normandy Group merger proceeding. Newcrest does not consider it appropriate to agree in advance to a valuation process where the interests of the Newcrest shareholders are in the hands of a third party."

Bruce Jacques, Sydney

Malaysian betting group ahead

Tanjong, the Malaysian betting group, reported group net profit for the year ended January 31 of M$160.6m (US$63.4m), a rise of 6.3 per cent on the previous year.

"The major contributors to the improved performance were increases in net interest income, increases in investment income and reduced prize payouts in the Numbers Forecast Totalisator Business," the group said. It added that prospects for the current year remained good although two joint-venture operations, Tanjong Golden Village and Pacific Online Systems, were not expected to make significant contributions.

AP-DJ, Kuala Lumpur

Lend Lease buys UK stake

Lend Lease Corporation, the Australian financial services group, has bought a 50 per cent stake in Chelverton Properties, the UK property group, for an undisclosed sum. Lend Lease said it would provide a £10m ($15.2m) loan to Chelverton to help it become a "significant retail development force in Europe". Chelverton specialises in out-of-town retail parks.

Bruce Jacques

Sanfu Motors mulls Burma move

Sanfu Motors, the Taiwan carmaker, is considering investing about US$800m to build a car plant in Burma, said Taiwan press reports. No date was offered for the plant to be ready and production targets were not given.

Reuter, Taipei

Peregrine :esult bolstered by sale ofstake in Invesco

By Louise Lucas in Hong Kog

Peregrine Investmets Holdings, the Hong Kong mer chant bank, yesterday repoted a 55 per cent rise in net prots, from HK$650.73m in 199 to HK$1.01bn (US$131m) last ar. The result was bolstered y HK$767m profit realised o th sale of the majority of its te ests in Invesco, the UK nd management concern.

Recurring earnings wee bad, however. The comans direct investment arm i Autralia made a number o por investments – principal in plastic moulding prducr which was unable to met th demands of a competitie ma ket and forced Peregine write off HK$77m in the cou try, after three years of waitir for the venture to make good.

Losses were also recorded urma, where the group's 50 er cent stake in a prawn plant ecame a matter of contention when the govrnment ended recognition of Peregrine's holding and its representative there allegedly failed to represent its interests. The case is now in litigation.

Elsewhere in Asia, Peregrine suffered from eak markets in what the company called "an extremely diffcult and frustrating year". Corporate finance struggled unler poor conditions, while quity brokerage was profitabl but tough. However, fixed icome and equity derivatives – principally covered warrars on the Hong Kong market – performed well.

In an attept to tackle its problems ad to streamline operations, te group restructured its maagement team at the end of la year. The board has been reshaped to comprise four executive and three non-executive directors. An executive committee (Exco), comprising the four executive directors, with heads of the various business streams, has been formed to act as the management nucleus.

Peregrine has assumed full control of its activities in Burma, where it does corporate advisory work, trade financing business and running a fish trading operation. "50-50 joint ventures just don't work," said Mr Alan Mercer, managing director of Exco.

Earnings per share on a fully diluted basis rose 45.73 per cent, from HK$1.067 to HK$1.555. Shareholders are to receive a dividend of 28 cents, up from last year's of 25 cents, and a one-for-10 bonus issue of warrants.

هكذا من الأصل

UK contracting gets filip as continuing businesses rise 28%

Tarmac passes low point

By David Wighton

Tarmac yesterday reported encouraging signs in UK contracting as it announced a 28 per cent increase in operating profit on its continuing businesses for 1995.

Although Tarmac's construction profits slipped to £8.2m (£13.1m) on turnover of £938.3m (£951.8m), Mr Neville Simms, chief executive, believed the contracting cycle had reached its low point.

"Orders were very strong in the last quarter and enquiries were of much better quality." He added that the structural changes taking place in the industry, including Tarmac's own asset swap with Wimpey, could only help the recovery.

Pre-tax profits after exceptionals fell to just £20.3m (£107.2m).

Mr Simms said no decisions had yet been made as to job losses following Tarmac's acquisition of Wimpey's construction and aggregates in February. But he made it clear that significant cost savings were expected, particularly in central construction.

The housebuilding division, which has been transferred to Wimpey, saw profits tumble to £38.3m (£61.1m). But this reflected partly the higher building materials prices enjoyed by the rest of Tarmac.

Operating profits were £136m (£139.3m); continued activities made £55.9m, and interest took £38.9m (£32.1m) to leave pre-tax profits before exceptionals of £97.1m (£107.2m).

Ashley Ashwood

Neville Simms: orders were very strong in last quarter

Thorn reveals music talks with Bertelsmann

By Alice Rawsthorn

Thorn EMI, the leisure group, held discussions this winter with Bertelsmann, the German media concern, about a possible alliance between their music divisions.

The talks are believed to have been inconclusive with both companies deciding against an alliance. It could have involved pooling distribution and other functions of EMI Music and Bertelsmann Music Group, the world's fourth and fifth largest record companies.

An alliance between EMI and BMG would have created the largest force in the $40bn global music industry.

However such an alliance might have run into anti-trust problems in the US and other countries.

Bertelsmann is understood to have decided to concentrate on expanding other areas of activity, culminating in yesterday's announcement of the acquisition of CLT, the Luxembourg television company.

Thorn EMI continues to face stock market speculation that a predator might bid for the entire group before the demerger in an attempt to acquire EMI Music at a lower price.

Thorn EMI's shares soared yesterday in frenzied buying to close 140p higher at a record £18.43, valuing the group at £7.9bn, 67 per cent more than a year ago.

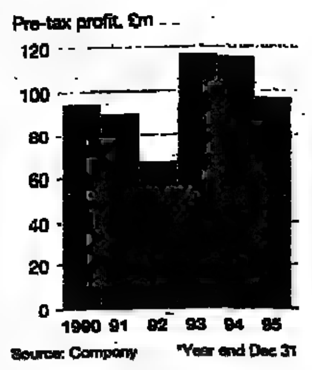
The share buying followed rumours that Time Warner, the US entertainment group, or Sony, the Japanese electronics and entertainment concern, planned to bid at £22 to £23 a share.

Analysts dismissed the rumours as "purely speculative". Although many expect a bid for EMI before or after the demerger, Seagram, the Canadian drinks and entertainment group, is a favoured contender, followed by Walt Disney and News Corporation.

LEX COMMENT

Littlewoods

Thos who believe companies would be better run without institutional shareholders breathing down their necks should take a look at yesterday's grim set of results from Littlewoods. But then again, the John Lewis partnership manages pretty well without shareholders. Littlewoods' ownership structure – with control exercised by 32 members of the Moores family – seems uniquely unhelpful. To be fair, Littlewoods' problems are not all of its own making. The National Lottery, which hammered Littlewoods' pools side, is not its fault. And there are some signs that the family is finally pushing the business to perform; capital investment has been stepped up. and £32m is being spent on restructuring.



But given the legacy of tired stores and brands, it has a long way to go. Margins in the home shopping and stores businesses are well below those of their main competitors. And the catalogue operation, Index, remains lossmaking. Given the economies of scale in these businesses, they would almost certainly be worth more to a rival than they are ever likely to be to the family. The case for selling them remains strong.

Woolwich

Woolwich looks deeply vulnerable. Having announced that conversion into a bank is in the best interest of its members, and now lost a chief executive, it is easy meat for predators to snap up. Banks are one obvious possibility. Other converting societies, most notably Alliance & Leicester, would be another. If they are feeling rash, life assurers would be a third.

In these circumstances, the best way for the Woolwich to benefit its members' interests is clear. Rather than try to find a new chief executive, Woolwich should put itself up for auction.

Liberty sees sharp fall as chief resigns

Liberty, the retailing and textiles group known for its distinctive prints, yesterday announced the departure of its chief executive and warned of a sharp fall in profits, writes David Blackwell.

Mr Patrick Austen, chief executive for just under three years, resigned and three other directors stepped down from the board. Profits for the year to January 27 will not be more than £2.1m, compared with £3.6m previously, and there will be no final dividend.

In spite of the world famous brand name centred on the flagship store in Regent Street, London, profits have been in decline from the £7.23m of 1990-91.

Analysts speculated yesterday that the network of small branch stores would be pruned.

Mr Denis Cassidy, appointed chairman last June, said the group had clearly not coped well as a retailer with the recession and changing contemporary trends.

Deutsche Telekom could buy Videotron

By Alan Cane

Deutsche Telekom, Europe's biggest telecommunications group, is in talks which could lead to it acquiring a majority stake in Videotron Holdings, the UK's sixth largest cable television company.

It is one of a group of telecoms and cable operators including AT&T, the largest US long-distance carrier, and KPN, the Dutch state-owned telecoms operator, which have been investigating the possibility of acquiring a 56 per cent stake in Videotron from Groupe Videotron, its Canadian parent. At yesterday's prices the stake would be worth C$826m.

The Canadian company put the stake on the market two months ago after Videotron's performance in the UK market failed to reach expectations.

The competitive situation in the UK would change radically should Deutsche Telekom acquire Videotron.

The German company, which operates the world's largest cable network, reaching 15m German households, is moving urgently to establish a bridgehead in the UK to counter the invasion of its home market by British Telecommunications.

Earlier this week it emerged that it would be BT's preferred purchaser of Mercury Communications, its principal UK rival, should a merger between BT and Cable and Wireless take place.

The second largest shareholder in Videotron is Bell Cablemedia, a UK cable operator in which Bell Canada has a 42 per cent stake. Bell Cablemedia is understood to be a potential bidder for the percentage it does not own.

Bad debt, lottery hits Littlewoods

The National Lottery, a sharp rise in bad debts at its home shopping division, and restructuring costs were behind a fall in profits at Littlewoods, the private retailing and pools group, writes Patrick Harverson.

Pre-tax profits fell 18 per cent from £116m to £97.3m ($148m) on turnover of £2.31bn (£2.46bn). Excluding exceptional gains of £18.8m from property disposals and the withdrawal from retail finance, operating profits were down at £77.7m (£107.8m).

The worst performing division was home shopping, which was hit by a surge in bad debts.

The other problem area was leisure, where the popularity of the National Lottery cut pools and spot-the-ball sales by 27 per cent. Mr Huntley said sales were likely to fall further.

Return of 70's-style development

London's biggest shopping development since the 1970s looks likely to go ahead following an agreement which unifies control of a 37-acre site at White City, to the west of central London. The deal brings to an end months of negotiations between the owners of different parts of the site and opens the way for a £200m ($304m) development, writes Simon London.

Hammersmith & Fulham Council have already granted outline planning permission for a 700,000 sq ft shopping centre together with parking for 4,500 cars.

The project promises to be the largest of its kind in the capital since Brent Cross, the UK's first covered shopping mall, was developed in north London in the 1970s.

The announcement came as Chelsfield unveiled a 6 per cent increase in net assets per share for 1995.

Woolwich loses chief executive

By Clay Harris and Alison Smith

Mr Peter Robinson abruptly left his job yesterday after only three months as chief executive of Woolwich Building Society, the UK's third largest. Mr Donald Kirkham, his predecessor, will return as acting chief executive.

In a statement last night, Woolwich said Mr Robinson had resigned and that neither it nor he would have any further comment. Mr Robinson had not returned to his office since arriving back in the UK on Monday from a 10-day holiday in Barbados.

Woolwich said its plan to convert into a bank and float on the stock market next year remained "firmly on track". Mr Robinson's surprise departure, however, may make the society vulnerable to a bid from a potential predator. Among those which might be interested is Prudential, the UK's largest life assurance group, which is planning to launch a banking and mortgage lending operation in the autumn.

Further evidence of turmoil within the sector came yesterday with speculation that another society – probably Northern Rock, the eighth largest – was due to announce today plans to float and become a bank.

Rising trend for MBOs and MBIs

By David Wighton

The value of management buy-outs and buy-ins in the UK reached a record £8.1bn ($12.3bn) in the year to March on the back of buoyant stock markets and the trend towards "focus" among UK quoted companies.

In the first quarter of 1996, an estimated £3.3bn of transactions were completed, the second highest figure for a three-month period, according to a report by Nottingham University's Centre for Management Buy-Out Research.

The quarterly figure was helped by the privatisation of the British Rail rolling stock leasing companies for a total of £1.72bn. But the report suggests the figures reflect a strong underlying trend which is set to continue.

Mr Chris Ward, head of MBO services at Deloitte & Touche Corporate Finance, said there had been a significant shift towards externally generated deals, particularly investor buy-outs. "The leading venture capitalists are serious buyers of businesses. They have now been joined by KKR, the US leveraged buy-out specialist, which has recently completed its first UK deal with the £206m acquisition of Reed Regional Newspapers."

There has also been a big rise in the number of buy-outs and particularly buy-ins from private vendors. Such transactions include secondary buy-outs in which venture capitalists acquire businesses from existing venture capital investors, sometimes with a management change in the middle.

Other influences behind the high level of activity include the availability of equity, mezzanine and debt finance and the number of private companies selling ahead of a possible Labour government which may introduce tax changes.

In terms of exits, there was a low level of flotations in the first quarter, with only two companies coming to the main market. But 35 trade sales of buy-outs and buy-ins are expected to be completed.

Mr Stephen Welton, director of BZW Private Equity, said: "Paradoxically, although the trend for focus is helping drive the MBO market, it is also generating exit opportunities. There are strategic forces behind the current strength of merger and acquisition activity as companies seek to build strong positions in their chosen marketplaces."

RESULTS

		Turnover (£m)		Pre-tax profit (£m)		EPS (p)		Current payment (p)	Date of payment	Corresponding divid	Total for year	Total last year
Brooks Service	Yr to Dec 31	27.7	(26)	1.08	(0.71)	6.04	(4.08)	2	June 4	1	3	2.25
Chelsfield	Yr to Dec 31	40.9□	(26□)	10.6	(10.2♥)	6.3	(5.4)	1.66	May 30	1	2.75	2.5
CIA §	Yr to Dec 31 ★	608.4	(466.2)	6.68	(5.35)	7.65	(6.71)	1.52	May 28	1.3	2.16	1.88
CLS	Yr to Dec 31	27.8	(24.5)	8.26	(12.2♥)	7.8†	(15.7)	3.15	May 31	2.6	5.25	3.35
Clydeport	Yr to Dec 31	18.2	(15.9)	5.32	(5.62♥)	13.34†	(14.17)	3	May 29	1	4.4	1
Dagenham Motors	Yr to Dec 31	267.5	(227.6)	6.1	(4.09)	14.4	(11.4)	6.5	May 24	5	7.7	7
Fiscal Properties	Yr to Dec 31	8.15	(7.29)	1.65	(0.23L♠)	3.3	(1.1)	.4011	-	1.24	2.0563	1.872
GBE Intl	Yr to Dec 31	57.1	(38.5)	1.71♠	(6.38L♠)	2.7	(7.7L)	1	July 1	1	1.5	1.5
Gowrings	Yr to Dec 31	60.9	(60.3)	0.611	(0.322L♠)	6.66	(4.97L)	1.75	May 13	1.25	2.75	2.25
Halstead (James)	6 mths to Dec 31	38.1	(35.6)	4.66	(4.74)	10.66	(10.49)	3.25	June 6	3	-	8.5
Hickson Intl	Yr to Dec 31 ★	413.3	(414)	43.3L♠	(19.2)	24.7L	(8.9)	nil	-	2.15	2	5
Highland Dist	6 mths to Feb 29	101.6	(106.1)	22.2	(23.7)	12	(12.6)	2	June 3	1.9	-	7.9
Inishtech ♣	Yr to Dec 31	82.2	(68.2)	9.55	(8.14)	45.3	(38.1)	-	-	6	5	8.75
Innovations	16 mths to Dec 31 ■	97.6	(74.1)	9.82♥	(0.128)	48.9	(0.89)	2.5	July 3	1.5	2.5	1.5
JBA	Yr to Dec 31	124.7	(90.7)	8.71♥	(6.13♥)	16.31†	(12.13)	3	June 10	2.5	4	3.3
Kynoch	Yr to Dec 31	13	(14.7)	0.011♠	(0.71L♠)	0.2L	(3.9L)	nil	-	nil	nil	nil
Oasis Stores	Yr to Jan 27	60.9	(47.1)	9.87♠	(9.23)	11.54	(11.52)	3.33	June 3	-	3.33	-
Pascoe's	Yr to Dec 31	6.76	(7.16)	0.17♥	(1.86L♥)	1.25	(12.48L)	nil	-	nil	nil	nil
Rackwood Mineral	Yr to Dec 31	17.9	(5)	1.31♥	(0.074♠)	6.9	(0.46)	2	May 31	-	3	2.25♦
Scholl	Yr to Dec 31	207.2	(188.8)	17.1♠	(2.8♠)	13	(4.1L☆)	4.2	May 13	3.8	7	6.4
Tarmac	Yr to Dec 31	2,482	(2,510)	20.3♠	(107.2)	0.1	(7.8)	2.5	July 1	2.5	5.5	5.5
Trafficmaster	Yr to Dec 31	2.55	(1.08)	2.48L♠	(1.31L)	11.3L	(6.5L)	-	-	-	-	-
United Friendly	Yr to Dec 31 ★	-	(-)	128.2	(92.3L)	111.9	(35.2L)	17.5	May 28	13.9	24.8	20
Walker Greenbank	Yr to Jan 31	95.9	(75)	9.58	(9.02)	5.57†	(6.23)	2.4	July 2	2.3	3.7	3.6
Waterford Wedgwood ♣	Yr to Dec 31	344.5	(325)	28.1	(22.6)	3.30	(2.9)	0.95	May 31	0.8	1.2	0.8
Watts Blake Bearne	Yr to Dec 31	104.9	(86.3)	11.2	(9.38)	31.7	(27.9)	10.8	July 1	9.6	16.2	15.5
Yorklyde	Yr to Jan 31	22.7	(18)	3.86	(4.08♥)	24.3	(27.6)	5.35	July 1	4.85	8	7.25

Investment Trusts		NAV (p)		Attributable Earnings (£m)		EPS (p)		Current payment (p)	Date of payment	Corresponding dividend	Total for year	Total last year
Intl Biotechnology	6 mths to Feb 29	126.96	(97.85)	0.075L	(0.221)	0.2L	(0.59)	-	-	-	-	1
3i Smaller Quoted	Yr to Feb 29	160.2	(130.8)	1.75	(1.01)	5.17	(3.73)	97	June 25	74	4.42‡	3.88

Earnings shown basic. Dividends shown net. Figures in brackets are for corresponding period. ♠After exceptional charge. ♥After exceptional credit. †On increased capital. □ Gross rental income. §USM stock. ★ Comparatives restated. ♣Irish currency. ■ Comparatives for year to Aug 31. ☆ Restated. ‡Includes special of 0.74p. ♦Special distribution.

Aim's success lifts first quarter market debuts

By Christopher Price

The number of companies seeking a public listing rose sharply in the first quarter of 1996, boosted by admissions to the Alternative Investment Market, the junior market which began trading last June.

However, the new market, which has less demanding joining regulations, was also behind a lower than expected figure for the main list, according to figures from KPMG, the accountancy and management consultancy group.

There was a total of 16 flotations on the main market raising nearly £1bn ($1.52bn) in the first three months of the year, compared with 22 flotations raising £351m. Including Aim, there were 46 new issues this year raising about £1.13bn.

Mr Neil Austin, head of new issues at KPMG, said the new market's success had distorted the figures, attracting some companies which would have probably joined the main market and encouraging others which would not have been able to qualify.

He added that the overall improvement, however, reflected a more positive view

New issues

Year	Number of issues	Total funds raised £m
1991	81	1,623*
1992	64	2,260
1993	163	5,169
1994	218	10,138
1995	85	2,614
1996(Q1)	16	988

*£8,097m raised before adjustment for introductions and for the effect of government privatisations where funds of over £1bn were raised. Source: KPMG

from fund managers of the new issues market. This followed a poor year in 1995 when many institutions shunned the market after several high profile upsets involving companies new to the market.

The experience has left its mark, with institutions demanding lower prices. Most new issues during the quarter came at a discount to the relevant sector, compared with the premiums seen in 1994 when demand for new issues was particularly heavy. "People are expecting bigger discounts – there is still a fair degree of scepticism out there," said Mr Austin.

One fund manager said that each new issue was taken on its merits. "Memories are not that short, but if a company is good enough it will receive the rating it deserves."

The lingering memories of 1994 have been reflected in a number of floats which have been pulled owing to a lack of support.

The most high profile was Peoples Phone, the mobile telecoms retailer, which had hoped for a price of £200m.

Baldwins Industrial Services, the UK's third largest crane hire and lifting business, also postponed its listing during the quarter. The family-owned group, which had hoped for a market value of £25m, said the terms it had been offered were not acceptable.

The biggest new issue of the quarter, excluding investment trusts, was Streamline Holdings. The road services group was valued at £112m and raised £40m. KPMG said Orange, the mobile telecoms group which floated with a value of £2.4bn, would be included in next quarter's figures because its listings details fell into April.

Of the 16 companies joining the main market, six were investment trusts.

COMMODITIES AND AGRICULTURE

Annual Opec price rises urged to avoid free-for-all

By Robert Corzine

An annual 5 per cent increase in output by the Organisation of Petroleum Exporting Countries could be the least painful way for the group to achieve its market share and price goals, according to a former senior Opec official.

Mr Fadhil Chalabi, now a director of the Centre for Global Energy Studies in London, said such a move could cause world oil prices to fall to around $12 a barrel from their current range of $16-$20 a barrel.

But Mr Chalabi told a conference in London yesterday that "although extremely painful", such a policy could help Opec to achieve its objectives "at a much lower cost than a free-for-all in which prices could drop as low as $5 a barrel".

Opec has maintained a production ceiling of 24.52m barrels a day since September 1993, but the strategy has generally failed to deliver higher oil prices, in part because a number of Opec states ignore their production quotas. Nor has the strategy prevented non-Opec producers from capturing most of the growth in worldwide oil demand.

Mr Abdul Al-Mudaej, the Kuwaiti oil minister, said he continued to favour the quota system. But he noted that "quotas only work on two occasions; when the individual quotas are set at near maximum production capacity level, or when all producers adhere willingly to their quotas".

He said all oil producers continue to benefit from the self-discipline of some Opec states. "I would hesitate to speculate about what the price levels would be if this discipline is no longer maintained," he added.

Most speakers at the conference argued that Opec still had a role to play in stabilising the world oil market. But its changing circumstances, and in particular its fading influence on short-term prices, was confirmed by Mr Rilwanu Lukman, the Opec secretary general.

"We should be accepted for what we are – an integral part of the supply side of the world oil industry," he said.

"The issue of whether or not Opec has lost its price setting role is irrelevant to its survival."

But Sheikh Zaki Yamani, the former Saudi Arabian oil minister, warned that "Opec faces a tough decision" if Iraqi oil returns to the world market this year.

UK group becomes Europe's biggest lead recycler

By Kenneth Gooding, Mining Correspondent

Europe's biggest lead recycling business has been formed by Quexco of the UK, which has acquired the lead business of Metallgesellschaft of Germany and the lead recycling facilities of Enirisorse of Italy.

The acquisitions and associated recapitalisation were funded by a £184.5m financing led by Apax Partners, a UK venture capital group.

The acquired businesses are market leaders in lead recycling in Germany, Austria and Italy and the second-largest in France. Quexco already was the UK's leading smelter and refiner of lead from recycled materials.

Following the deals, Quexco Incorporated, the privately-owned US group that claims to be the world's biggest recycler of lead from used car batteries, will continue to manage the UK company. But it no longer has a controlling shareholding.

Lead Production ('000 tonnes)	1996(f)	1995(e)	1994	1993
Primary	2,225	2,200	2,182	2,254
Recycled	2,450	2,350	2,302	2,203
Total	4,675	4,550	4,484	4,457

Source: Billiton Metals. f = forecast. e = estimated.

Quexco first moved into Europe in 1993 when it acquired Billiton's lead recycling and fabrication operations in the UK and France from the Royal Dutch/Shell group. As a result the company has the capacity to treat about 100,000 tonnes of lead products annually in the UK through companies such as HJ Enthoven and British Lead Mills. In France it acquired 10,000 tonnes of annual rolling capacity via Le Plomb Français.

Metallgesellschaft, the German industrial and trading group, has sold to Quexco its Berzelius primary lead smelter in Germany and stakes in five secondary lead smelters located in Europe and the Middle East.

MG said that that Rheinische Zinkgesellschaft, which owned the smelters, had sales of about Dm300m (US$200) in the 1994-95 financial year and employed about 560 people.

MG, which came close to bankruptcy in 1994, first announced the possible sale in May as part of a big asset disposal programme and it caused some concern at Germany's metal workers' union.

These objections have now been resolved and Quexco took over from January 1 the Berzelius primary smelter at Stolberg, which has the capacity to produce 80,000 tonnes of lead and lead alloys a year using the QSL process developed by Lurgi, an MG subsidiary. The other companies are secondary lead smelters that recycle used car batteries. Together their annual capacity is 150,000 tonnes.

Enirisorse, previously part of the Italian state-owned Eni group, has two recycling plants, one near Milan and the other in Naples.

Apax, Bankers Trust and ECI Ventures helped to fund the acquisition of the Billiton assets by Quexco.

New equity for the MG and Enirisorse deals was provided by Apax, HSBC Private Equity and Prudential Venture Managers and the debt was led by Chemical Bank, co-arranged by Banque Paribas and underwritten by Chemical Bank, Banque Paribas and Lloyds Bank.

LME WAREHOUSE STOCKS (As at Thursday's close) tonnes

Aluminium	+7,975	to 748,825
Aluminium alloy	+1,260	to 80,300
Copper	-2,850	to 319,375
Lead	+600	to 91,750
Nickel	-108	to 34,806
Zinc	+950	to 623,950
Tin	-25	to 9,150

India faces challenge to develop 'tremendous' mining potential

By Kenneth Gooding

India had tremendous potential to develop its mining and metals industry but faced a big challenge if it was to attract the necessary capital, according to Mr Rajat Kohli, analyst at MC Securities, a London based investment bank.

The sub-continent had the right geology, low labour costs and its mining and tax legislation was partly liberalised in 1993, Mr Kohli pointed out. But "there is tremendous competition for available capital created by the large number of mining and metal projects under consideration or development in other emerging markets, for example China, the former Soviet Union, Latin America and sub-Saharan Africa".

The main area of foreign investment in India's mining and metals sectors in the past two to three years had been by companies setting up preliminary joint venture agreements to explore for minerals, with Australian groups to the fore. There had been some foreign interest in upstream projects and some money had been spent on preparatory work. "But large scale commitments have not taken place," he said in a paper prepared for Metal Bulletin magazine's Indian Metals conference.

Mr Kohli identified 14 proposed copper projects involving about US$1.5bn of investment that will be raised primarily via domestic equity markets, local bank financing and international equity issues.

There were also eight aluminium and five alumina (aluminium oxide) projects in the pipeline. At least $500m had already been committed in the aluminium sector and the total could rise to $2bn. The alumina projects would also need investment totalling $2bn.

Liberalisation of India's steel industry had led to financing being arranged for 17 major new steel works and another eight projects were being appraised. Total investment in these and related steel projects was estimated at $6bn. "Remarkably, almost all projects are domestic ventures and financing has been mainly raised within India."

Mr Kohli said that one of the main attractions of India for the international mining and metals industry was that high consumption growth rates were forecast as a relatively affluent middle class emerged. India also had the potential to export, particularly aluminium.

In addition it offered a relatively safe political environment, a well developed legal framework, developed capital markets and a high level of education.

Zambian farmers value schooling above eating

John Madeley explains why people are remaining hungry as maize production rises

One of the poorest areas in Zambia has witnessed a transformation in the past ten years that could be the envy of Africa. The country's remote North Western Province has gone from being a food-deficit to a food-surplus area. On a continent gripped by food shortages, the province seems to have found some valuable answers. Yet most of its population have yet to benefit.

Over 600km from the capital, Lusaka, the North Western Province is dominated by shrub woodland and much of the soil has a high acid content. Its rural population of about 250,000 people has traditionally grown cassava, maize, millet, sorghum and beans on small plots, often shifting their cultivation through the woodland.

The province has the advantage that rainfall is high and drought is rare. But malnutrition and unemployment rates are high and the area lags behind in the provision of education, health care and sanitary services.

Under the North Western Province Area Development Project, which began in 1983, small farmers in three of the province's six districts – Solwezi, Mwinilunga and Kasempa – have been given credit and advice and encouraged to plant more maize, especially improved varieties. This has led to a huge increase in output and to an increase in incomes.

Maize output in the three districts rose from 60,789 bags (90kg each) in 1986 to 235,218 in 1993. A recent evaluation by the Rome-based International Fund for Agricultural Development, which supports the project, says the province has been transformed "into a substantial maize producer".

But the evaluation also shows that while food output has risen, malnutrition is still rife and has hardly been lowered. A nutrition surveillance programme lists "underweight rates" for the North Western Province as 32 per cent in 1986 and 31 per cent in 1994. Furthermore there is little evidence that malnutrition in the three districts in the province covered by the project is lower than in the three not covered.

> 'Many people are only just beginning to realise that their malnutrition has anything to do with food'

Ms Dora Phiri, a project official, says that "when people grow more food, they might sell it and use some of the money to send their children to school. They do not necessarily eat more". Under the terms of the World Bank-IMF structural adjustment programme, education is no longer free in Zambia.

Another problem, Ms Phiri says, is that "many people are only just beginning to realise that their malnutrition has anything to do with food". Some crops, like soyabeans, are now being recognised as valuable in providing nourishment, she said, and extension workers are encouraging farmers to plant more of these crops. The climate is good for soyabeans and the development of small-scale livestock is being encouraged, including fish farming.

Marketing has also been a problem for farmers, especially in remote areas. A consequence of Zambia's structural adjustment programme was the ending of state purchases of maize. But an alternative system did not develop quickly enough, and some farmers were unable to sell their crop last year. Bags of maize remained stacked outside many houses. Peasant farmers, especially those in remote areas, found it difficult to take their maize to urban centres and negotiate a sale.

"Many farmers were caught unawares by the new policy and found themselves stuck with surplus maize," says the IFAD evaluation.

Unemployment remains obstinately high in the province and a project official admitted that the project could do little directly to reduce this. Woodland is abundant and could be cleared for the unemployed to practice agriculture, although the cost would be high. For young unemployed people, who organise into groups, there is a limited amount of government funding to clear land and start farming.

"We are now a food self-sufficient province," says the project's co-ordinator, Mr Boniface Munalula, "but growing more food is not enough in itself. To tackle malnutrition, you need several things – you need to produce the right kind of food, you need health care and drinking water, you need co-ordination".

COMMODITIES PRICES

BASE METALS

LONDON METAL EXCHANGE (Prices from Amalgamated Metal Trading)

ALUMINIUM, 99.7 PURITY ($ per tonne)

	Cash	3 mths
Close	1613-4	1646-7
Previous	1638.5-7.5	1667-8
High/low	1633	1674/1653
AM Official	1621.5-2.0	1653-3.5
Kerb close		1652-3
Open int.	220,727	
Total daily turnover	65,777	

ALUMINIUM ALLOY ($ per tonne)

	Cash	3 mths
Close	1365-75	1405-10
Previous	1380-90	1420-5
High/low		1420
AM Official	1365-75	1405-15
Kerb close		1415-20
Open int	5,723	
Total daily turnover	1,401	

LEAD ($ per tonne)

	Cash	3 mths
Close	788-90	780-1
Previous	791-3	783-3.5
High/low	788/795	788/780
AM Official	788-9	777-8
Kerb close		780-1
Open int.	39,237	
Total daily turnover	11,101	

NICKEL ($ per tonne)

	Cash	3 mths
Close	8030-40	8130-35
Previous	8115-25	8215-20
High/low	8030	8240/8110
AM Official	8060-80	8180-90
Kerb close		8190-95
Open int	41,911	
Total daily turnover	11,870	

TIN ($ per tonne)

	Cash	3 mths
Close	6345-55	6380-90
Previous	6415-25	6450-60
High/low		6475/6430
AM Official	6385-95	6420-25
Kerb close		6465-70
Open int	18,059	
Total daily turnover	4,815	

ZINC, special high grade ($ per tonne)

	Cash	3 mths
Close	1048.5-9.5	1072.5-3.0
Previous	1051-2	1075-6
High/low		1088/1071
AM Official	1048-9	1072.5-3.0
Kerb close		1075.5-6.0
Open int.	71,042	
Total daily turnover	24,376	

COPPER, grade A ($ per tonne)

	Cash	3 mths
Close	2496-8	2482-3
Previous	2515.5-7.5	2509-10
High/low	2517/2515	2526/2498
AM Official	2512.5-3.5	2503-4
Kerb close		2505-06
Open int	175,387	
Total daily turnover	62,916	

LME AM Official £/$ rate: 1.5259
LME Closing £/$ rate: 1.5263

Spot: 1.5239 3 mths: 1.5219 6 mths: 1.5194 9 mths: 1.5170

HIGH GRADE COPPER (COMEX)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	114.00	-1.10	114.80	114.00	306	2,805
May	114.00	-0.55	114.80	113.60	6,275	21,242
Jun	113.50	-	113.50	113.30	53	932
Jul	112.70	-0.55	113.30	112.45	375	6,206
Aug	112.95	-	-	-	10	520
Sep	111.70	-0.30	112.00	111.50	47	3,293
Total					9,142	43,891

PRECIOUS METALS

LONDON BULLION MARKET (Prices supplied by N M Rothschild)

Gold(Troy oz)	$ price	£ equiv	SFr equiv
Close	393.40-393.80		
Opening	394.20-394.60		
Morning fix	394.35	258.421	469.947
Afternoon fix	394.35	258.658	470.854
Day's High	394.50-394.90		
Day's Low	393.00-393.40		
Previous close	394.70-395.10		

Loco Ldn Mean Gold Lending Rates (Vs US$)

1 month	3.90	6 months	3.90
2 months	3.92	12 months	3.70
3 months	3.92		

Silver Fix	p/troy oz.	US cts equiv
Spot	362.00	552.75
3 months	366.15	558.40
6 months	370.50	564.25
1 year	380.10	576.85

Gold Coins	$ price	£ equiv.
Krugerrand	394-397	258-260
Maple Leaf	405.30-407.85	
New Sovereign	92-95	60-62

Precious Metals continued

GOLD COMEX (100 Troy oz.; $/troy oz.)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	393.5	-1.6	395.1	393.0	2,028	1,990
Jun	396.5	-1.2	398.0	395.7	18,915	98,372
Aug	398.6	-1.5	400.1	397.8	298	20,380
Oct	402.4	-0.2	402.4	402.4	30	5,373
Dec	403.7	-1.4	405.2	403.0	128	17,823
Feb	408.0	-	408.0	408.0	35	5,027
Total					21,404	180,000

PLATINUM NYMEX (50 Troy oz.; $/troy oz.)

	Latest price	Day's change	High	Low	Vol	Open int
Apr	405.0	+0.2	406.5	403.0	662	1,306
Jul	408.5	-1.8	410.3	407.8	3,874	19,552
Oct	412.0	-1.5	413.0	411.0	125	2,976
Jan	414.0	-	414.0	414.0	8	1,096
Apr	416.5	-	417.0	416.6	128	665
Total					4,786	25,804

PALLADIUM NYMEX (100 Troy oz.; $/troy oz.)

	Latest price	Day's change	High	Low	Vol	Open int
Jun	142.00	-0.75	142.75	142.00	209	5,895
Sep	143.50	-	143.25	143.25	184	801
Dec	144.60	-	-	-	17	111
Total					802	6,806

SILVER COMEX (5,000 Troy oz.; Cents/troy oz.)

	Latest price	Day's change	High	Low	Vol	Open int
May	551.0	-4.0	555.5	549.5	7,028	55,541
Jul	555.5	-4.2	559.5	554.5	1,441	18,481
Sep	559.5	-4.7	562.5	560.0	291	11,180
Dec	567.5	-3.8	572.0	566.0	52	7,597
Mar	581.0	-	581.0	581.0	8	3,165
May	592.5	-	-	-	400	451
Total					8,881	97,012

ENERGY

CRUDE OIL NYMEX (42,000 US galls. $/barrel)

	Latest price	Day's change	High	Low	Vol	Open int
May	22.49	+0.23	22.52	22.20	43,108	87,438
Jun	20.72	+0.15	20.80	20.58	19,619	76,801
Jul	19.85	+0.12	19.87	19.65	8,568	48,514
Aug	19.24	+0.05	19.24	19.10	3,241	29,472
Sep	18.85	-0.02	18.89	18.80	2,493	25,846
Oct	18.67	-0.03	18.70	18.60	1,010	16,121
Total					[illegible]	438,050

CRUDE OIL IPE ($/barrel)

HEATING OIL NYMEX (42,000 US galls; c/US galls)

GAS OIL IPE ($/tonne)

NATURAL GAS NYMEX (10,000 mmBtu; $/mmBtu)

UNLEADED GASOLINE NYMEX (42,000 US galls; c/US galls)

GRAINS AND OIL SEEDS

WHEAT LCE (£ per tonne)

WHEAT CBT (5,000bu min; cents/60lb bushel)

MAIZE CBT (5,000 bu min; cents/56lb bushel)

SILVER COMEX

BARLEY LCE (£ per tonne)

SOYABEANS CBT (5,000bu min; cents/60lb bushel)

SOYABEAN OIL CBT (60,000lbs; cents/lb)

SOYABEAN MEAL CBT (100 tons; $/ton)

POTATOES LCE (£/tonne)

FREIGHT (BIFFEX) LCE ($10/index point)

FUTURES DATA
All futures data supplied by CMS.

SOFTS

COCOA LCE (£/tonne)

	Latest price	Day's change	High	Low	Vol	Open int
May	972	-5	984	972	1,448	15,728
Jul	992	-5	1016	991	4,180	23,448

COCOA CSCE (10 tonnes; $/tonnes)

COCOA (ICCO) (SDR's/tonne)

COFFEE LCE ($/tonne)

COFFEE 'C' CSCE (37,500lbs; cents/lbs)

COFFEE (ICO) (US cents/pound)

WHITE SUGAR LCE ($/tonne)

SUGAR '11' CSCE (112,000lbs; cents/lbs)

COTTON NYCE (50,000lbs; cents/lbs)

ORANGE JUICE NYCE (15,000lbs; cents/lbs)

MEAT AND LIVESTOCK

LIVE CATTLE CME (40,000lbs; cents/lbs)

	Sett Price	Day's change	High	Low	Vol	Open int
Apr	64.150	-0.075	64.575	63.950	4,549	20,977
Jun	63.350	+0.250	63.550	62.950	8,730	32,336
Aug	62.775	+0.275	63.100	62.500	2,858	19,133
Oct	63.950	+0.125	64.150	63.625	1,462	10,996
Dec	63.150	-0.100	63.425	63.100	977	9,297
Feb	63.375	-0.100	63.650	63.350	504	4,088
Total					18,230	97,193

LIVE HOGS CME (40,000lbs; cents/lbs)

	Sett Price	Day's change	High	Low	Vol	Open int
Apr	51.650	-0.750	52.200	51.600	3,408	7,403
Jun	56.050	-0.300	56.350	55.850	5,701	17,325
Jul	54.465	-0.025	54.625	54.250	1,413	5,209
Aug	51.475	+0.200	52.200	51.300	508	5,582
Oct	47.550	+0.700	47.800	46.900	398	3,299
Dec	48.550	+0.200	48.750	48.100	297	2,087
Total					11,807	41,655

PORK BELLIES CME (40,000lbs; cents/lbs)

	Sett Price	Day's change	High	Low	Vol	Open int
May	72.675	+2.000	72.675	72.675	369	6,356
Jul	71.725	+2.000	71.725	71.725	177	3,111
Aug	68.475	+2.000	68.475	68.475	17	1,010
Feb	66.625	+2.000	66.625	66.625	23	171
Mar	66.100	+2.000	66.100	66.100	2	6
Total					588	10,657

LONDON TRADED OPTIONS

Strike price $ tonne — Calls — — Puts —

	Calls		Puts	
ALUMINIUM (99.7%) LME	May	Sep	May	Sep
1600	39	108	15	40
1700	4	56	79	98
1800	-	28	175	165
COPPER (Grade A) LME	May	Sep	May	Sep
2300	200	173	-	31
2400	104	108	4	65
2500	33	63	33	116
COFFEE LCE	May	Jul	May	Jul
1850	54	117	56	153
1900	36	99	87	185
1950	21	84	123	220
COCOA LCE	May	Jul	May	Jul
875	97	123	-	-
900	73	102	-	-
925	51	83	-	-
BRENT CRUDE IPE	May	Jun	May	Jun
1850	-	-	-	-
1900	-	85	7	72
1950	72	53	17	-

LONDON SPOT MARKETS

CRUDE OIL FOB (per barrel)

		+or-
Dubai	$17.75-7.80x	+0.15
Brent Blend (dated)	$21.08-1.10	+0.24
Brent Blend (May)	$20.13-0.15	+0.25
W.T.I.	$22.43-2.46x	+0.485

OIL PRODUCTS NWE prompt delivery CIF (tonne)

Premium Gasoline	$203-205	-2.5
Gas Oil	$191-193	+4.5
Heavy Fuel Oil	$106-108	+1
Naphtha	$194-196	+2
Jet fuel	$213-217	+4
Diesel	$198-200	+5

Petroleum Argus. Tel. London (0171) 359 8792

OTHER

Gold (per troy oz)♣	$393.60	-1.30
Silver (per troy oz)♣	551.50c	-1.00
Platinum (per troy oz.)	$405.00	
Palladium (per troy oz.)	$140.50	
Copper	123.0c	
Lead (US prod.)	45.00c	
Tin (Kuala Lumpur)	15.95r	-0.05
Tin (New York)	303.5	+1.0
Cattle (live weight)†	104.89p	+7.78*
Sheep (live weight)†♠	165.34p	+2.24*
Pigs (live weight)†	121.44p	-2.54*
Lon. day sugar (raw)	$306.3	-3.3
Lon. day sugar (wte)	$407.5	+8.5
Barley (Eng. feed)	Unq	
Maize (US No3 Yellow)	146.5	
Wheat (US Dark North)	Unq.	
Rubber (Apr)♥	102.50p	
Rubber (May)♥	102.50p	
Rubber (KL RSS No1)	384.00m	-0.5
Coconut Oil (Phil)§	$730.0v	+2.5
Palm Oil (Malay.)§	$545.0	
Copra (Phil)§	461.0	
Soyabeans (US)	216.0v	+2.0
Cotton Outlook'A' Index	82.90c	+0.6
Wooltops (64s Super)	444p	

£ per tonne unless otherwise stated. p pence/kg. c cents/lb. r ringgit/kg. m Malaysian cents/kg. x May. v Apr/May. y Apr/Jun. ♥ London Physical. § CIF Rotterdam. ♣ Bullion market close. ♠ Sheep (Live weight prices). * Change on week. †Prices are for previous week.

VOLUME DATA
Open interest and Volume data shown for contracts traded on COMEX, NYMEX, CBT, NYCE, CME and CSCE are one day in arrears.

INDICES

REUTERS (Base: 18/9/31=100)

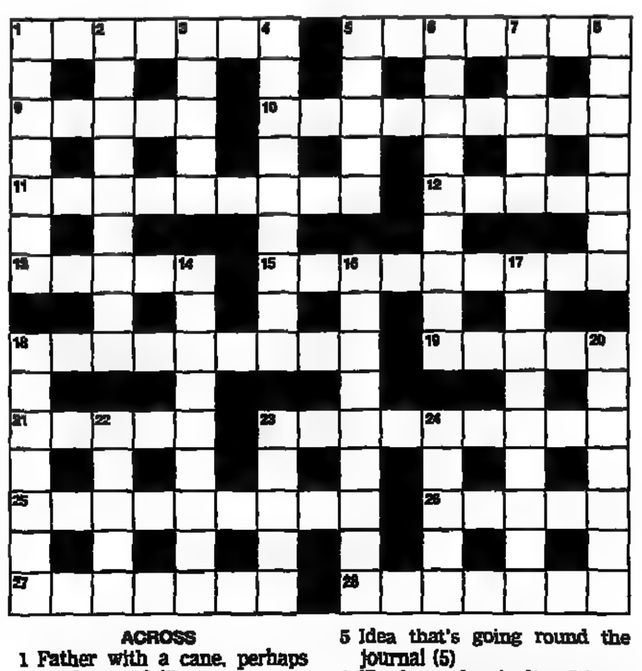
CRB Futures (Base: 1967=100)

GSCI Spot (Base: 1970=100)

JOTTER PAD

CROSSWORD

No.9,035 Set by QUARK



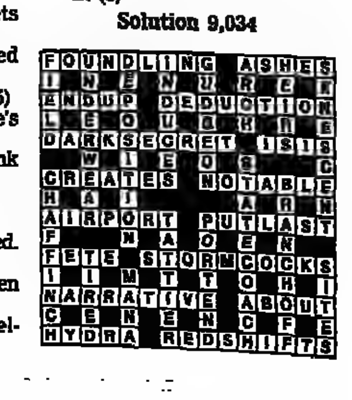
ACROSS

1 Father with a cane, perhaps as the cure? (7)
5 Suggest a negative place of horror (7)
9 Dishonest person's accent first to disappear? (5)
10 Depending on my overheads I go up and down (9)
11 Orderly at sea? (9)
12 Some college heads backing the philosopher (5)
13 The old physician given shelter by the church (5)
15 Mentor may work as temporary (9)
18 Rash. What one wearing woolly hat gets? (3-6)
19 Body of teachers keeping up standard? (5)
21 University doctor seen in Royal Artillery dance (5)
23 Famous person briefly gets rebuke or proclaim? (9)
25 Mice round represented unseemliness (9)
26 Recorded as "well known" (5)
27 Call in the hunt; a colleague's in hot exchanges (5-2)
28 No good man gets to drink what quack supplies (7)

DOWN

1 A light shield (7)
2 Linnet with egg abandoned. Careless? (9)
3 He's in the Civil Service (seen on the board) (5)
4 "Got an enthusiastic welcome". Bill maintained (9)
5 Idea that's going round the journal (5)
6 The force of agriculture? (4,5)
7 Bit of garden under devastation: what gardener will be? (5)
8 Defeat in court? (7)
14 Greeting "Archery" suitably placed in ranking system (9)
16 One who's in the trade centre (9)
17 A form of gypsum found in a laboratory plant (9)
18 His art displayed with piano? Not exactly (7)
20 Licence order released at the top (7)
22 Standard form (5)
23 List of goods carried? Petrol can make it (5)
24 Good French/American benefit (5)

Solution 9,034



INTERNATIONAL CAPITAL MARKETS

Investors stay on sidelines ahead of US jobs data

By Richard Lapper in London and Richard Waters in New York

Government bond prices rose gently yesterday but trading was thin ahead of the Easter holidays and Friday's keenly awaited US employment figures. "All major bets [are] off until the markets see the colour of the US figures on Friday," said Mr David Brown, senior European economist at Bear Stearns in London. "Considering this is the first week in a new quarter, when investors should have the bit between their teeth on portfolio asset re-allocation, you could hardly have got a more quiet start."

GOVERNMENT BONDS

■ Economic data that was mildly positive for bonds helped extend Monday's gains in the US Treasury market into yesterday morning. By late morning, the benchmark 30-year bond was up $\frac{7}{32}$ at 95⅝, to yield 6.62 per cent, on reports that traders were continuing to close short positions ahead of the Friday report. There were also advances in intermediate maturities, including a rise of $\frac{3}{32}$ to 97⅞ for three-year notes to give a yield of 5.837 per cent.

The Commerce Department revised its estimate of economic growth for the fourth quarter of last year to 0.5 per cent, down from 0.9 per cent. That confirmed the slow-down that took hold late in the year, after growth at an annualised rate of 3.6 per cent in the previous three months. The news was too old, though, to give any hint of whether the US economy is yet shaking off the effects of this year's sluggish first quarter.

Helping sustain the market was news that the auctions expected this week will not come until the beginning next week. The $18.25bn auction of two-year notes and $12bn sale of five-year paper have been scheduled for next Monday and Tuesday.

■ German bond futures opened brightly, breaking through important technical levels despite the absence of economic news. Prices were then squeezed higher into the close, with a number of traders moving to cover short positions. At Liffe the June 10-year bund future settled at 96.95, up nearly half a point on the day.

Mr Alex Cooper, Liffe floor manager with Crédit Lyonnais Rouse, said volume – 116,748 contracts were exchanged – was higher than on Monday and reported some buying by European professional traders. But he also said that many players are already closing their books ahead of the Easter break. "With Easter falling where it is, a number of bankers are saying 'we don't want proprietary risk on our books'. There are plenty of reasons to stay close to shore."

In the cash market, Germany underperformed the US, with the 10-year yield spread between Treasuries and bunds falling from six to two basis points.

A number of analysts argue that decoupling between the US and German markets is still likely to occur. Mr Michael Burke, senior economist with Citibank in London, disagrees. He says that when Germany and the US have been in different phases of their business cycles in the past it has not usually led their markets to move in opposite directions.

"In the long term rates in both markets are determined by a common factor – the supply and demand for capital, and the demand for capital is rising."

■ The French market largely tracked Germany, with the June notional bond future settling 0.28 higher at 122.42. In the cash market the 10-year yield spread of OATs over bunds remained unchanged at 16 basis points.

■ In the UK, gilts continued their improvement begun towards the end of last week, with the June long gilt settling at 105⅝, up $\frac{11}{32}$. Gilts slightly underperformed bunds, however, with the 10-year spread widening by two basis points to 184.

Mr Simon Briscoe, senior UK economist with Nikko Europe, said the announcement today of gilt auction plans for the second quarter could lead to a resurgence of buying activity. A decision to auction short-dated stock and/or floating rate issues will help demand for longer-dated paper, he said.

Mr Peter Moore, senior portfolio manager at AMP Asset Management, said that the market was oversold last week on the mad cow disease scare and that "gilts are looking exceptionally cheap. No one wants to sell gilts lower."

■ Italian and Spanish bonds again outperformed Germany, with 10-year yield spreads over bunds falling from 438 to 437 basis points and from 327 to 321 basis points, respectively. Spain was again helped by hopes that the Popular party may soon be able to form a government.

By contrast Sweden underperformed, with its 10-year spread over bunds widening out to 211 basis points.

The market was adversely affected by news that the Swedish National Audit Office had upgraded its budget deficit forecast for 1995/96 to SKr198.3bn, compared with a previous forecast of SKr181bn.

UK power groups poised to take up facilities for bids

By Antonia Sharpe

Activity in the international syndicated loans market has slowed ahead of Easter but once the holiday is over, the second quarter should be as busy as the first.

SYNDICATED LOANS

Big facilities in the pipeline include financings for National Power and PowerGen of the UK, if, as widely expected, the Monopolies and Mergers Commission clears their bids for the regional electricity companies, Southern Electric and Midlands Electricity.

Loans for both companies were put on ice earlier this year when their bids were referred to the MMC. National Power had lined up a £2.5bn loan from NatWest, Chemical (now Chase), Barclays and UBS while PowerGen had put in place a £2.55bn loan from Goldman Sachs, Deutsche Bank, Barclays and Midland.

Bankers believe PowerGen could try to re-negotiate the interest margin over London interbank offered rates (Libor), thought to have been set at 22½ basis points. But National Power would have difficulty in improving its margin, believed to be 12½ basis points.

ABN-Amro, Goldman Sachs and J. P. Morgan are providing a bridge loan, believed to be for $2bn, to the Dutch food retailer Ahold to fund its $2.9bn takeover of Stop & Shop, the US supermarket chain. The loan will be refinanced through bank debt and bond issues and the company also plans a share issue.

Another big borrower in the second quarter could be Cades, set up by the French government to plug the FFr160bn shortfall in the country's social security system. The government is believed to be close to a decision which will allow Cades to tap the syndicated loans market.

RJB Mining is refinancing a facility taken out when it bought British Coal's English mines in 1994. The margin on the five-year £210m facility, which is being arranged by BZW and Chase, is believed to be half that on RJB's existing, secured facility of more than 1 per cent.

In emerging Europe, Chase and Citibank are arranging a $500m five-year facility for SPT, the Czech telecoms company. The facility, which has a margin of between 20 and 25 basis points, will be syndicated in the next month.

BZW has arranged a DM75m six-year credit facility for Nova Ljubljanska Banka, Slovenia's biggest bank, at similar terms to those for the republic itself which recently obtained a margin of between 40 and 50 basis points.

BZW and Bank Austria have underwritten the facility which will be syndicated at a later date. Slovenia is widely seen as an improving credit and is expected soon to get an investment-grade rating.

In project finance, Bank of Tokyo, Bayerische Landesbank and UBS have underwritten a SKr1.33bn 15-year loan to partly fund the SKr4.4bn construction of a train link between Stockholm's Arlanda airport and the city.

The loan is being syndicated to a small group of relationship banks of the project's sponsors, which include John Mowlem Construction, GEC Alsthom, NCC and Siab.

Construction of the link, the first privately-financed project in Sweden, is scheduled to take three years. The loan will be repaid over the following 12 years.

Convertible issues dominate as trading remains subdued

By Samer Iskandar

While straight bond issuance remained subdued, yesterday, primary market activity in convertibles regained momentum.

INTERNATIONAL BONDS

TB Finance broke new ground by making conversion mandatory on its latest issue of preference shares exchangeable into common shares of Tokai Bank. As a result, the funds will qualify as tier-one capital for the parent bank. The amount, Y100bn, made this the third largest issue of convertible paper in the euromarket.

Mandatory exchange works in much the same way as a sinking fund on straight bonds, with two tranches of Y33bn converted in 2003 and 2004; the last tranche, totalling Y34bn, will be exchanged when the paper matures in October 2004. Conversion at the holder's option is subject to price revision. The deal, launched on March 26, was priced yesterday with a coupon of 2¼ per cent, at the high end of the indicative range of 2-2¼ per cent. Investor demand was strong, said syndicate members, due to the relatively high yield of the issue compared with a yield of around 0.50 per cent on the ordinary shares. This attracted interest from equity investors in addition to convertible bond fund managers.

Deutsche Finance launched the first D-Mark denominated Original Discount Issue of bonds convertible into shares of Allianz. The issue saw strong demand, which prompted the lead manager, Deutsche Morgan Grenfell, to increase the amount by DM250m to DM1bn despite a relatively high conversion premium of 25 per cent. Issued at 86.64, the paper ended the day at 86.80. The five-year bonds are callable after three years and conversion is only possible after the end of the second year, which in effect sets a "conversion window" of only one year.

But this limitation did not seem to dampen demand, and the lead manager expects this deal to "possibly inspire other German issuers". Deutsche Bank, which guarantees the paper, owns a 10 per cent stake in Allianz. To be able to keep that holding intact, it has retained the option to provide "a cash alternative... on conversion in place of Allianz shares".

The US dollar sector saw little activity, with only a handful of small and medium-sized deals launched. Caisse Centrale des Banques Populaires, the financing arm of the French federation of banks, raised $250m, paying a floating rate 10 basis points below 3-month Libor.

DSL Bank tapped an existing issue for an additional $100m, yielding 3 basis points over Treasuries. The first $200m tranche, issued on March 12, offered a spread of 5 basis points. The lead manager, BNP Capital Markets, said the re-opening was motivated by very strong retail demand, including one large lead order.

NEW INTERNATIONAL BOND ISSUES

Borrower	Amount m.	Coupon %	Price	Maturity	Fees %	Spread bp	Book-runner
US DOLLARS							
CCBP‡	250	(a)‡	100.00	Apr 1997	0.04	-	Merrill Lynch International
DSL Bank(b)	100	6.00	100.016R	Apr 1999	0.1875R	+3(5¾-99)	BNP Capital Markets
Bank Rozwoju Exportu‡	50	(c)	100.00	Apr 1999	0.75	-	Merrill Lynch International
D-MARKS							
Deutsche Finance Neths(d)§	1bn	1.00	86.64	May 2001	2.50	-	Deutsche Morgan Grenfell
YEN							
Nippon Soda Co(e)§	12bn	zero	100.00	Sep 2000	2.50	-	Yamaichi Intl(Europe)
SWISS FRANCS							
SudwestLB Capital Markets	200	4.375	102.75	May 2006	2.75	-	Credit Suisse
BNG	200	4.375	102.75	May 2006	2.75	-	ABN Amro/Credit Suisse
Schindler Fin(Cayman)(f)ф	170	2.50	101.625	May 2003	undisclsd	-	SBC Warburg
TransPower Finance(g)	100	4.25	102.75	Jun 2004	2.625	-	Credit Suisse
LUXEMBOURG FRANCS							
Kredietcorp(s)	2.5bn	6.00	102.65	Dec 2001	1.875	-	Kredietbank Luxembourg
AUSTRALIAN DOLLARS							
DB Australia	100	8.375	101.25	Apr 1999	1.50	-	Deutsche Morgan Grenfell

Final terms, non-callable unless stated. Yield spread (over relevant government bond) at launch supplied by lead manager. ★Unlisted. §Convertible. фWith equity warrants. ‡ Floating-rate note. #Semi-annual coupon. R: fixed re-offer price; fees shown at re-offer level. a) 3-mth Libor -10bp. b) Fungible with $250m. Plus 21 days accrued. c) 6-mth Libor +100bp. d) Exchangeable from 2/5/98 into Allianz registered shares at DM3,484. Issuer has option to deliver cash. Callable from 2/5/99 at accreted value. e) Fixing: 10/4/96. Reset each February to give zero % premium, max 150% and min 50% of initial conversion price. f) Denom: SFr5,000 +30 wrts (expire 15/12/98). 10 wrts entitle holder to one bearer participation certificate at SFr1,600. f) Long 1st coupon. g) Short 1st coupon.

WORLD BOND PRICES

BENCHMARK GOVERNMENT BONDS

		Coupon	Red Date	Price	Day's change	Yield	Week ago	Month ago
Australia		10.000	02/06	107.2020	-	8.88	8.84	8.81
Austria		6.125	02/06	97.9000	+0.430	6.42	6.49	6.50
Belgium		7.000	05/06	102.4500	+0.390	6.66	6.79	6.76
Canada *		8.750	12/05	106.1500	+0.340	7.54	7.59	7.40
Denmark		8.000	03/06	103.8800	+0.390	7.43	7.55	7.50
France	BTAN	5.750	03/01	100.3750	+0.140	5.66	5.81	5.86
	OAT	7.250	04/06	105.3500	+0.280	6.51	6.66	6.61
Germany Bund		6.000	02/06	97.4900	+0.330	6.35	6.41	6.30
Ireland		8.000	08/06	103.0200	+0.200	7.56	0.00	7.80
Italy		9.500	02/06	94.1700	+0.300	10.46†	10.60	10.40
Japan	No 129	6.400	03/00	117.2690	+0.100	1.73	1.95	2.06
	No 182	3.000	09/05	99.6700	+0.260	3.05	3.26	3.16
Netherlands		6.000	01/06	97.8000	+0.430	6.33	6.42	6.28
Portugal		11.875	02/05	114.4600	+0.450	9.39	9.55	9.50
Spain		10.150	01/06	103.5900	+0.710	9.54	9.71	9.70
Sweden		6.000	02/05	84.3210	-0.650	8.80	8.50	8.81
UK Gilts		8.000	12/00	102-09	+4/32	7.41	7.46	7.12
		7.500	12/06	96-02	+12/32	8.05	8.13	7.88
		9.000	10/08	106-16	+14/32	8.16	8.24	8.00
US Treasury *		5.625	02/06	95-11	+14/32	6.26	6.28	5.91
		6.000	02/26	81-29	+14/32	6.62	6.61	6.36
ECU (French Govt)		7.500	04/06	103.4700	+0.080	8.07	7.14	7.10

London closing, *New York mid-day. Yields: Local market standard.
† Gross (including withholding tax at 12.5 per cent payable by nonresidents)
Prices: US, UK in 32nds, others in decimal. Source: MMS International

US INTEREST RATES

Latest		Treasury Bills and Bond Yields			
Prime rate	8¼	One month	4.18	Two year	5.74
Broker loan rate	7	Two month	5.18	Three year	5.86
Fed funds	5⅛	Three month	5.17	Five year	6.02
Fed funds at intervention	-	Six month	5.24	10-year	6.25
		One year	5.38	30-year	6.62

BOND FUTURES AND OPTIONS

France

■ NOTIONAL FRENCH BOND FUTURES (MATIF) FFr500,000

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Jun	122.16	122.42	+0.28	122.44	122.00	90,157	135,692
Sep	120.92	121.14	+0.24	121.12	120.76	223	4,413
Dec	119.66	119.88	+0.24	119.66	119.66	2	659

■ LONG TERM FRENCH BOND OPTIONS (MATIF)

Strike Price	Calls May	Calls Jun	Calls Sep	Puts May	Puts Jun	Puts Sep
119	-	-	-	0.05	0.23	-
120	-	-	-	0.11	0.36	-
121	-	1.82	-	0.19	0.57	-
122	0.84	1.24	1.27	0.44	0.90	2.11
123	0.32	0.72	-	-	-	-

Est. vol. total, Calls 18,047 Puts 22,144. Previous day's open int., Calls 141,846 Puts 158,086.

Germany

■ NOTIONAL GERMAN BUND FUTURES (LIFFE)* DM250,000 100ths of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	96.68	96.95	+0.38	97.02	96.62	116739	221375
Sep	95.80	96.09	+0.38	96.00	95.80	1131	4916

■ BUND FUTURES OPTIONS (LIFFE) DM250,000 points of 100%

Strike Price	Calls May	Calls Jun	Calls Jul	Calls Sep	Puts May	Puts Jun	Puts Jul	Puts Sep
9650	0.79	1.12	0.86	1.18	0.34	0.67	1.27	1.59
9700	0.48	0.83	0.65	0.95	0.58	0.88	1.56	1.86
9750	0.26	0.59	0.46	0.76	0.81	1.14	1.89	2.17

Est. vol. total, Calls 24071 Puts 18833. Previous day's open int., Calls 228845 Puts 178976

Italy

■ NOTIONAL ITALIAN GOVT. BOND (BTP) FUTURES (LIFFE)* Lira 200m 100ths of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	108.70	108.95	+0.41	109.08	108.62	31669	46705
Sep		108.41	+0.40			0	268

■ ITALIAN GOVT. BOND (BTP) FUTURES OPTIONS (LIFFE) Lira200m 100ths of 100%

Strike Price	Calls Jun	Calls Sep	Puts Jun	Puts Sep
10850	1.78	2.46	1.32	2.57
10900	1.51	2.25	1.55	2.84
10950	1.26	2.03	1.80	3.12

Est. vol. total, Calls 3136 Puts 3656. Previous day's open int., Calls 57708 Puts 73687

Spain

■ NOTIONAL SPANISH BOND FUTURES (MEFF)

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Jun	95.85	96.36	+0.64	96.52	95.85	66,240	46,592

UK

■ NOTIONAL UK GILT FUTURES (LIFFE)* £50,000 32nds of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	105-12	105-20	+0-11	105-25	105-03	35845	122426
Sep		104-17	+0-11			0	165

■ LONG GILT FUTURES OPTIONS (LIFFE) £50,000 64ths of 100%

Strike Price	Calls May	Calls Jun	Calls Jul	Calls Sep	Puts May	Puts Jun	Puts Jul	Puts Sep
105	1-12	1-37	1-20	1-53	0-36	0-61	1-50	2-19
106	0-40	1-05	0-58	1-27	1-00	1-27	2-24	2-57
107	0-16	0-41	0-39	1-05	1-42	2-01	3-06	3-36

Est. vol. total, Calls 3794 Puts 1809. Previous day's open int., Calls 41113 Puts 38694

Ecu

■ ECU BOND FUTURES (MATIF) ECU100,000

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Jun	90.12	90.44	+0.30	90.44	90.04	1,190	7,808
Sep	–	89.00	–	–	–	–	–

US

■ US TREASURY BOND FUTURES (CBT) $100,000 32nds of 100%

	Open	Latest	Change	High	Low	Est. vol.	Open int.
Jun	111-26	112-11	+0-18	112-11	111-26	140,567	352,498
Sep	111-16	111-27	+0-18	111-27	111-13	608	20,374
Dec	111-08	111-05	+0-13	111-08	111-05	20	3,837

Japan

■ NOTIONAL LONG TERM JAPANESE GOVT. BOND FUTURES (LIFFE) Y100m 100ths of 100%

	Open	Close	Change	High	Low	Est. vol	Open int.
Jun	120.20			120.32	120.15	3157	0
Sep	119.15			119.15	119.08	31	0

* LIFFE futures also traded on APT. All Open interest figs. are for previous day.

FT-ACTUARIES FIXED INTEREST INDICES

Price Indices UK Gilts	Tue Apr 2	Day's change %	Mon Apr 1	Accrued interest	xd adj. ytd
1 Up to 5 years (24)	121.46	+0.08	121.36	2.11	2.43
2 5-15 years (19)	146.11	+0.38	145.63	3.31	1.82
3 Over 15 years (9)	159.25	+0.51	158.44	2.27	3.48
4 Irredeemables (6)	182.56	+0.62	181.43	3.50	1.47
5 All stocks (56)	141.17	+0.27	140.80	2.71	2.88

Yields	Low coupon yield Apr 2	Apr 1	Yr. ago	Medium coupon yield Apr 2	Apr 1	Yr. ago	High coupon yield Apr 2	Apr 1	Yr. ago
5 yrs	7.52	7.54	8.32	7.55	7.59	8.36	7.65	7.69	8.52
15 yrs	8.22	8.28	8.35	8.23	8.29	8.42	8.33	8.39	8.63
20 yrs	8.30	8.36	8.39	8.29	8.34	8.42	8.38	8.43	8.59
Irred.†	8.36	8.41	8.39						

Index-linked

6 Up to 5 years (1)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
7 Over 5 years (11)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
8 All stocks (12)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Average gross redemption yields are shown above. Coupon Bands: Low: 0%-7¾%; Medium: 8%-10¾%; High: 11% and over. † Flat yield. ytd Year to date.

FT FIXED INTEREST INDICES

	Apr 2	Apr 1	Mar 29	Mar 28	Mar 27	Yr ago	High*	Low*
Govt. Secs. (UK)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Fixed Interest	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

GILT EDGED ACTIVITY INDICES

	Apr 1	Mar 29	Mar 28	Mar 27	Mar 26
Gilt Edged bargains	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
5-day average	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

FT/ISMA INTERNATIONAL BOND SERVICE

[illegible]

UK GILTS PRICES

	Notes	Yield Int	Yield Red	Price £	+ or -	52 week High	52 week Low
Shorts" (Lives up to Five Years)							
Treas 15¼pc 1996‡‡		15.13	5.98	100⅝	-$\frac{1}{32}$	108¼	100⅝
Exch 13¼pc 1996‡‡		13.14	5.99	100⅞	-$\frac{1}{32}$	108⅞	100⅞
Treas 2pc 1996		0.92	5.85	216⅞		216¼	207¼
Conversion 10pc 1996		9.76	5.97	102¼		104⅞	102¼
[illegible]							

[illegible]

CURRENCIES AND MONEY

MARKETS REPORT

Dollar's rise stalls as trading activity slows

By Graham Bowley

The dollar's recent resurgence against the yen and D-Mark appeared to peter out yesterday as most major currencies returned to established trading ranges amid thin turnover.

Speculation that German interest rates would have to fall again and remain low for some time continued to weigh on the D-Mark, which weakened slightly against other European currencies.

The French franc and the Italian lira were especially well supported as investors took advantage of the relatively quiet market conditions to move into high yielding asset markets, analysts said.

The Dutch guilder had another good day against the D-Mark in spite of last week's cut in key interest rates by the central bank.

The South African rand recovered after falling sharply in early trading on rumours that Mr Trevor Manuel, the new finance minister, might ease foreign exchange controls soon. But a spokesman for Mr Manuel denied the rumours.

The pound lost ground. It closed at DM2.2587 at the end of London trading, from DM2.2623 at Monday's close. Against the dollar, it closed at $1.5243 from $1.5254.

The dollar finished in London at DM1.4818 from DM1.4832. Against the yen it closed lower at Y107.3950 from Y107.5250.

The French franc closed at FFr3.407 against the D-Mark, from FFr3.405.

■ With dealers winding down for the Easter holiday, trading was quiet yesterday and few analysts expected any large currency movements in coming sessions.

However, Friday's US payroll report, currently dominating market attention and likely to give a strong hint about the next move in US interest rates, could provide an upset at the end of the week.

Mr Malcolm Barr, currency analyst at Chemical Bank in London, said although there were some "fundamental influences" at work in the foreign exchange markets, these were not being translated into price movements since the market "lacks unanimity about how to interpret them".

He said the dollar and European currencies would only break out of current trading ranges when there were "clear signs" that US interest rates were set to rise or when there was a new move forward on European Monetary Union.

■ Yesterday's annual report of the European Monetary Institute, the forerunner of the European Central Bank, provided some further food for thought on the issue of Emu.

Preparations for Emu were on schedule with progress made on a common monetary policy, payments systems and arrangements for switching to the single currency, the report said.

However, some concern was aired about the effect the current economic slowdown in Europe was having on countries' budget deficits. Mr Eddie George, governor of the Bank of England, again adopted something of a Eurosceptic tone when he said after a meeting at the EMI that the slowdown in EU economies would make meeting the 1999 start date for a single European currency more difficult.

He told reporters "the general sense is that progress (on fiscal convergence) is not as rapid as it needs to be. There still is a pretty tough road to hoe."

However, Mr Jean Arthuis, the French finance minister, said at the Group of Seven jobs conference in Lille that the franc's recent rise was a sign that progress was being made with France's finances.

The franc's strength yesterday was in spite of a further 1/16 percentage point easing in French call money rates.

■ The dollar's failure to break higher yesterday was in spite of some strong economic data.

US GDP growth between the third and fourth quarters of last year was revised down from an annualised 0.9 per cent to 0.5 per cent, in line with expectations. But other data showed a much stronger than expected rise in US leading indicators.

Analysts at Nomura fixed income research in London think the dollar is now heading for Y109.5. The D-Mark however looks overvalued against the yen, they think.

UK official reserves fell by $147m last month. This was more than economists had expected and raised suspicions that the Bank of England may have intervened to support sterling in March.

■ **Pound in New York**

Apr 2	Latest	Prev. close
£ spot	1.5240	1.5245
1 mth	1.5233	[illegible]
3 mth	1.5219	1.5224
1 yr	1.5144	[illegible]

■ **OTHER CURRENCIES**

Apr 2	£	$
Czech Rp	41.3971 - 41.4385	27.1670 - 27.1770
Hungary	218.816 - 219.030	143.600 - 143.650
Iran	4574.40 - 4571.40	3000.00 - 3000.00
Kuwait	0.4559 - 0.4569	0.2992 - 0.2996
Poland	3.9357 - 3.9408	2.5835 - 2.5845
Russia	7421.57 - 7441.02	4877.00 - 4880.00
U.A.E.	5.5962 - 5.6006	3.6725 - 3.6730

POUND SPOT FORWARD AGAINST THE POUND

Apr 2		Closing mid-point	Change on day	Bid/offer spread	Day's Mid high	low	One month Rate	%PA	Three months Rate	%PA	One year Rate	%PA	Bank of Eng. Index
Europe													
Austria	(Sch)	15.8822	-0.0275	737 - 906	15.9082	15.8726	15.8322	2.8	15.7697	2.6	-	-	105.8
Belgium	(BFr)	[illegible]	-0.0899	814 - 271	46.4760	46.3810	[illegible]	2.7	46.0893	2.7	45.1693	2.7	108.0
Denmark	(DKr)	8.7175	-0.0136	123 - 226	8.7312	8.7117	8.7058	1.6	8.6811	1.7	8.5748	1.6	108.8
Finland	(FM)	7.0614	+0.0009	534 - 694	7.0740	7.0360	7.057	0.7	7.0489	0.7	-	-	83.2
France	(FFr)	7.6965	-0.0063	932 - 998	7.7078	7.6848	7.6836	2.0	7.661	1.8	7.5606	1.8	[illegible]
Germany	(DM)	2.2587	-0.0038	575 - 598	2.2645	2.2557	2.2536	2.7	2.2438	2.7	2.1967	2.7	110.0
Greece	(Dr)	366.823	-1.824	626 - 019	370.228	366.620	-	-	-	-	-	-	88.7
Ireland	(I£)	0.9698	-	688 - 707	0.9710	0.9688	0.9691	0.9	0.9678	0.9	0.9628	0.7	97.7
Italy	(L)	2384.59	-8.75	380 - 539	2394.58	2383.40	2392.84	-4.2	2407.94	-3.9	2460.54	-3.2	73.9
Luxembourg	(LFr)	46.4045	-0.0899	814 - 271	46.4760	46.3810	46.2993	2.7	46.0893	2.7	45.1693	2.7	108.0
Netherlands	(Fl)	2.5261	-0.0052	248 - 274	2.5307	2.5248	2.5202	2.8	2.5079	2.9	2.4582	2.8	108.2
Norway	(NKr)	9.7884	-0.0403	794 - 973	9.8582	9.7386	9.7794	1.1	9.7603	1.1	9.6646	1.3	96.9
Portugal	(Es)	233.238	-0.321	060 - [illegible]	233.584	232.974	233.658	-2.2	234.563	-2.3	-	-	95.5
Spain	(Pta)	189.913	-0.252	820 - 005	190.212	189.700	190.348	-2.7	191.188	-2.6	194.013	-2.2	81.6
Sweden	(SKr)	10.1660	+0.0041	540 - 759	10.2074	10.1193	10.1662	-0.1	10.1678	-0.1	10.1701	-0.1	88.7
Switzerland	(SFr)	1.8187	-0.0049	174 - 200	1.8250	1.8173	1.8128	4.2	1.7998	4.2	1.7429	4.2	114.8
UK	(£)	-	-	-	-	-	-	-	-	-	-	-	83.5
Ecu	-	1.2139	-0.0052	131 - 146	1.2187	1.2130	1.2126	1.3	1.2098	1.4	1.1988	1.5	-
SDR†	-	1.04635	-	-	-	-	-	-	-	-	-	-	-
Americas													
Argentina	(Peso)	1.5238	-0.0011	232 - 243	1.5265	1.5229	-	-	-	-	-	-	-
Brazil	(R$)	1.5047	-0.0018	040 - 054	1.5071	1.5040	-	-	-	-	-	-	-
Canada	(C$)	2.0663	-0.0007	652 - 675	2.0692	2.0644	2.0656	0.4	2.0619	0.8	2.0539	0.6	84.8
Mexico	(New Peso)	11.4527	-0.008	437 - 617	11.4820	11.4405	-	-	-	-	-	-	-
USA	($)	1.5243	-0.0011	238 - 248	1.5268	1.5238	1.5235	0.6	1.5222	0.5	1.5148	0.6	95.9
Pacific/Middle East/Africa													
Australia	(A$)	1.9474	+0.0073	461 - 486	1.9522	1.9411	1.95	-1.6	1.953	-1.5	1.9803	-1.7	91.9
Hong Kong	(HK$)	11.7882	-0.0093	835 - 928	11.8071	11.7821	11.7801	0.8	11.7685	0.7	11.7487	0.3	-
India	(Rs)	51.7301	-0.1851	283 - 719	52.0730	51.4240	-	-	-	-	-	-	-
Israel	(Shk)	4.7842	+0.0238	[illegible]	4.7751	4.7287	-	-	-	-	-	-	-
Japan	(Y)	163.702	-0.311	610 - 794	164.200	163.510	162.977	5.3	161.487	5.4	155.072	5.3	135.3
Malaysia	(M$)	3.8524	-0.0063	503 - 544	3.8600	3.8500	-	-	-	-	-	-	-
New Zealand	(NZ$)	2.2264	+0.0046	245 - 283	2.2327	2.2226	2.2314	-2.7	2.2409	-2.6	2.2747	-2.2	107.2
Philippines	(Peso)	39.9062	-0.0123	169 - [illegible]	39.9963	39.8159	-	-	-	-	-	-	-
Saudi Arabia	(SR)	5.7172	-0.0036	149 - 194	[illegible]	5.7148	-	-	-	-	-	-	-
Singapore	(S$)	2.1421	-0.0037	406 - 436	2.1459	2.1403	-	-	-	-	-	-	-
South Africa	(R)	6.1121	+0.0072	089 - 152	6.1331	6.0647	-	-	-	-	-	-	-
South Korea	(Won)	1189.28	-2.95	872 - 980	1191.48	1188.50	-	-	-	-	-	-	-
Taiwan	(T$)	41.5022	-0.0478	870 - 173	41.5387	41.4800	-	-	-	-	-	-	-
Thailand	(Bt)	38.4886	-0.0418	807 - 164	38.5490	38.4600	-	-	-	-	-	-	-

† Rates for Apr 1. Bid/offer spreads in the Pound Spot table show only the last three decimal places. Forward rates are not directly quoted to the market but are implied by current interest rates. Sterling index calculated by the Bank of England. Base average 1990 = 100. Index rebased 1/2/95. Bid, Offer and Mid-rates in both this and the Dollar Spot tables derived from THE WM/REUTERS CLOSING SPOT RATES. Some values are rounded by the F.T. The FT will not be published on Friday, April 5th. Exchange rates for April 5th will appear in Saturday April 6th edition. Exchange rates for Thursday April 4th will not be published but are available on Cityline 0891 437001

DOLLAR SPOT FORWARD AGAINST THE DOLLAR

Apr 2		Closing mid-point	Change on day	Bid/offer spread	Day's mid high	low	One month Rate	%PA	Three months Rate	%PA	One year Rate	%PA	J.P Morgan index
Europe													
Austria	(Sch)	10.4193	-0.0108	172 - 214	10.4350	10.4025	10.402	2.0	10.3668	2.1	10.2043	2.1	105.7
Belgium	(BFr)	30.4430	-0.038	380 - 480	30.4900	30.4100	30.39	2.1	30.2835	2.1	29.803	2.1	107.6
Denmark	(DKr)	5.7190	-0.005	175 - 205	5.7280	5.7115	5.714	1.0	5.704	1.0	5.7268	-0.1	108.0
Finland	(FM)	4.6328	+0.0038	288 - 368	4.6400	4.6143	4.6261	1.7	4.6141	1.6	4.5686	1.4	82.5
France	(FFr)	5.0492	-0.0007	487 - 497	5.0585	5.0425	5.0431	1.4	5.0339	1.3	4.9912	1.1	109.5
Germany	(DM)	1.4818	-0.0014	815 - 820	1.4842	1.4790	1.4791	2.2	1.474	2.1	1.4501	2.1	109.3
Greece	(Dr)	240.650	-1.00	600 - 700	242.920	240.530	242.325	-8.4	245.675	-8.4	259.65	-7.9	66.0
Ireland	(I£)	1.5719	-0.001	709 - 729	1.5745	1.5705	1.5724	-0.3	1.5727	-0.2	1.5621	0.6	-
Italy	(L)	1564.39	-4.65	425 - 452	1570.16	1562.50	1570.44	-4.6	1581.99	-4.5	1622.89	-3.7	73.3
Luxembourg	(LFr)	30.4430	-0.038	380 - 480	30.4900	30.4100	30.39	2.1	30.2835	2.1	29.803	2.1	107.6
Netherlands	(Fl)	1.6572	-0.0023	569 - 575	1.6601	1.6553	1.6542	2.2	1.6479	2.3	1.6207	2.2	107.6
Norway	(NKr)	6.4216	-0.022	178 - 253	6.4510	6.3780	6.4186	0.6	6.4131	0.5	6.3788	0.7	96.0
Portugal	(Es)	153.010	-0.105	960 - 060	153.230	152.650	153.325	-2.5	153.915	-2.4	156.06	-2.0	95.5
Spain	(Pta)	124.590	-0.05	570 - 610	124.800	124.410	124.93	-3.3	125.6	-3.2	127.97	-2.7	81.5
Sweden	(SKr)	6.6668	+0.0072	698 - 736	6.6919	6.6385	6.6756	-2.0	6.6971	-1.7	6.7391	-1.1	88.3
Switzerland	(SFr)	1.1932	-0.0023	927 - 936	1.1949	1.1914	1.1896	3.7	1.1824	3.6	1.1504	3.6	114.1
UK	(£)	1.5243	-0.0011	238 - 248	1.5268	1.5236	1.5235	0.6	1.5222	0.5	1.5146	0.6	83.1
Ecu	-	1.2558	+0.0046	554 - 561	1.2588	1.2510	1.2566	-0.7	1.2582	-0.6	1.2671	-0.9	-
SDR†	-	0.68666	-	-	-	-	-	-	-	-	-	-	-
Americas													
Argentina	(Peso)	0.9997	-	996 - 997	1.0000	0.9996	-	-	-	-	-	-	-
Brazil	(R$)	0.9872	-0.0005	870 - 873	0.9873	0.9870	-	-	-	-	-	-	-
Canada	(C$)	1.3556	+0.0005	553 - 558	1.3580	1.3540	1.3564	0.1	1.3557	0.0	1.3585	-0.2	84.0
Mexico	(New Peso)	7.5200	-	100 - 300	7.5300	7.5070	7.5222	-0.4	7.5254	-0.3	7.5308	-0.1	-
USA	($)	-	-	-	-	-	-	-	-	-	-	-	96.8
Pacific/Middle East/Africa													
Australia	(A$)	1.2775	+0.0057	771 - 780	1.2786	1.2739	1.2796	-1.9	1.283	-1.7	1.3017	-1.9	93.4
Hong Kong	(HK$)	7.7335	-0.0006	330 - 340	7.7338	7.7326	7.7342	-0.1	7.736	-0.1	7.763	-0.4	-
India	(Rs)	33.9500	-0.1	500 - 500	34.1500	33.7500	34.1	-5.3	34.405	-5.4	35.875	-5.7	-
Israel	(Shk)	3.1255	+0.0178	236 - 274	3.1310	3.1060	-	-	-	-	-	-	-
Japan	(Y)	107.395	-0.13	370 - 420	107.640	107.180	106.95	5.0	106.05	5.0	102.31	4.7	135.5
Malaysia	(M$)	2.5273	-0.0037	268 - 278	2.5323	2.5260	2.5282	-0.4	2.5348	-1.1	2.5578	-1.2	-
New Zealand	(NZ$)	1.4605	+0.004	599 - 613	1.4623	1.4586	1.4636	-2.5	1.4694	-2.4	1.494	-2.3	-
Philippines	(Peso)	26.1800	+0.01	300 - 300	26.2300	26.1300	-	-	-	-	-	-	-
Saudi Arabia	(SR)	3.7507	+0.0002	504 - 509	3.7510	3.7504	3.7511	-0.1	3.7519	-0.1	3.7562	-0.1	-
Singapore	(S$)	1.4053	-0.0014	048 - 058	1.4070	1.4048	1.4018	3.0	1.3958	2.7	1.3703	2.5	-
South Africa	(R)	4.0098	+0.0075	090 - 105	4.0225	3.9900	4.0355	-6.6	4.0801	-6.0	4.3133	-7.6	-
South Korea	(Won)	780.200	-1.4	100 - 300	781.100	780.000	-	-	-	-	-	-	-
Taiwan	(T$)	27.2270	-0.0125	260 - 280	27.2440	27.2250	27.247	-0.9	27.287	-0.9	-	-	-
Thailand	(Bt)	25.2500	-0.01	400 - 600	25.2640	25.2370	25.3487	-4.7	25.5525	-4.8	26.435	-4.7	-

† SDR rate per $ for Apr 1. Bid/offer spreads in the Dollar Spot table show only the last three decimal places. Forward rates are not directly quoted to the market but are implied by current interest rates. UK, Ireland & ECU are quoted in US currency. J.P. Morgan nominal indices Apr 1: Base average 1990=100. The FT will not be published on Friday, April 5th. Exchange rates for April 5th will appear in Saturday April 6th edition. Exchange rates for Thursday April 4th will not be published but are available on Cityline 0891 437001

WORLD INTEREST RATES

MONEY RATES

April 2	Over night	One month	Three mths	Six mths	One year	Lomb. inter.	Dis. rate	Repo rate
Belgium	3¼	3⅜	3⅜	3⅜	3⅞	7.00	3.00	-
week ago	3¼	3⅜	3⅜	3⅜	3⅞	7.00	3.00	-
France	3⅝	4	4⅛	4⅛	4¼	3.80	-	5.60
week ago	4⅛	4	4⅛	4⅛	4½	3.80	-	5.60
Germany	3⅜	3¼	3¼	3⅜	3⅜	5.00	3.00	3.30
week ago	3¼	3¼	3¼	3⅜	3⅜	5.00	3.00	3.30
Ireland	5¼	5¼	5¼	5⅜	5½	-	-	6.25
week ago	5½	5¼	5½	5⅝	5⅞	-	-	6.25
Italy	9⅝	9½	9½	9⅝	9½	-	9.00	9.98
week ago	9½	9⅝	9½	9⅝	9⅞	-	9.00	9.98
Netherlands	3	3¼	3	3	3½	-	3.00	3.30
week ago	3½	3¼	3½	3⅛	3⅜	-	3.00	3.30
Switzerland	1½	1⅞	1½	1½	1⅝	5.00	1.50	-
week ago	1⅛	1⅞	1⅝	1⅝	1⅝	5.00	1.50	-
US	5⅜	5¼	5¼	5⅜	5⅝	-	5.00	-
week ago	5½	5¼	5⅜	5½	5⅝	-	5.00	-
Japan	⅜	⅜	⅜	⅜	⅞	-	0.50	-
week ago	½	⅜	½	⅜	⅞	-	0.50	-
■ $ LIBOR FT London								
Interbank Fixing	-	5⅜	5⅜	5½	5⅞	-	-	-
week ago	-	5⅜	5⅜	5⅜	5½	-	-	-
US Dollar CDs	-	5.12	[illegible]	5.21	5.44	-	-	-
week ago	-	5.12	5.08	[illegible]	5.34	-	-	-
ECU Linked Ds	-	4⅜	4⅛	4⅛	4½	-	-	-
week ago	-	4⅜	4½	4½	4⅞	-	-	-
SDR Linked Ds	-	3⅜	3⅜	3½	3⅝	-	-	-
week ago	-	3⅜	3⅜	3⅜	3½	-	-	-

$ LIBOR interbank fixing rates are offered rates for $10m quoted to the market by four reference banks at 11am each working day. The banks are: Bankers Trust, Bank of Tokyo, Barclays and National Westminster.
Mid rates are shown for the domestic Money Rates, US$ CDs, ECU & SDR Linked Deposits (Ds).

EURO CURRENCY INTEREST RATES

Apr 2	Short term	7 days notice	One month	Three months	Six months	One year
Belgian Franc	3⅜ - 3¼	3⅜ - 3¼	3⅜ - 3¼	3⅜ - 3¼	3⅜ - 3¼	3½ - 3⅜
Danish Krone	4⅛ - 3⅞	4⅛ - 3⅞	4⅛ - 3⅞	4¼ - 4⅛	4¼ - 4⅛	4⅜ - 4¼
D-Mark	3⅜ - 3¼	3⅜ - 3¼	3⅜ - 3¼	3⅜ - 3¼	3⅜ - 3¼	3½ - 3⅜
Dutch Guilder	3⅛ - 2⅞	3⅛ - 2⅞	3⅛ - 2⅞	3⅛ - 2⅞	3⅛ - 2⅞	3⅜ - 3¼
French Franc	4⅛ - 3⅞	4⅛ - 3⅞	4⅛ - 3⅞	4⅛ - 4	4¼ - 4⅛	4⅜ - 4¼
Portuguese Esc.	7⅜ - 7¼	7⅜ - 7¼	7⅜ - 7¼	7⅜ - 7¼	7⅜ - 7¼	7⅜ - 7¼
Spanish Peseta	8⅜ - 8¼	8⅜ - 8¼	8⅜ - 8¼	8⅜ - 8¼	8⅜ - 8¼	8⅜ - 8¼
Sterling	5⅞ - 5¾	5⅞ - 5¾	6 - 5⅞	6⅛ - 6	6¼ - 6⅛	6⅝ - 6½
Swiss Franc	1⅞ - 1¾	1⅝ - 1½	1⅝ - 1½	1⅝ - 1½	1⅝ - 1½	1⅞ - 1¾
Can. Dollar	5⅛ - 4⅞	5⅛ - 4⅞	5 - 4⅞	5⅛ - 4⅞	5¼ - 5⅛	5½ - 5⅜
US Dollar	5⅜ - 5¼	5⅜ - 5¼	5⅜ - 5¼	5⅜ - 5¼	5½ - 5⅜	5⅞ - 5¾
Italian Lira	10½ - 9½	9⅞ - 9⅝	9¾ - 9⅝	9¾ - 9⅝	9⅞ - 9¾	9⅞ - 9¾
Yen	½ - ⅜	⅝ - ½	⅝ - ½	⅝ - ½	⅝ - ½	¾ - ⅝
Asian $Sing	¼ - ⅛	1⅝ - 1½	1⅝ - 1½	2⅛ - 2	2¼ - 2⅛	2⅝ - 2½

Short term rates are call for the US Dollar and Yen, others: two days' notice.

■ **THREE MONTH PIBOR FUTURES** (MATIF) Paris interbank offered rate (FFr5m)

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	95.76	95.77	+0.01	95.80	95.75	16,012	61,410
Sep	95.74	95.73	+0.02	95.76	95.73	7,226	[illegible]
Dec	95.57	95.57	+0.02	95.59	95.54	3,361	25,479

■ **THREE MONTH EUROMARK FUTURES** (LIFFE)* DM1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	96.79	96.79	-	96.82	96.76	19154	225577
Sep	96.70	96.71	+0.01	96.72	96.69	14536	225891
Dec	96.47	96.47	+0.02	96.49	96.43	16776	176569
Mar	96.10	96.14	+0.03	96.15	96.10	12562	112184

■ **THREE MONTH EUROLIRA FUTURES** (LIFFE)* L1000m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	90.43	90.44	+0.05	90.48	90.39	8098	40552
Sep	90.84	90.88	+0.04	90.87	90.79	2884	20349
Dec	90.91	90.95	+0.05	90.95	90.88	454	15539
Mar	90.87	90.91	+0.06	90.91	90.86	157	7633

■ **THREE MONTH EURO SWISS FRANC FUTURES** (LIFFE) SFr1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	98.30	98.30	-	98.33	98.30	2030	29093
Sep	98.20	98.22	+0.04	98.24	98.19	1716	13749
Dec	97.92	97.95	+0.06	97.96	97.90	1360	10288
Mar	97.82	97.83	+0.04	97.85	97.80	890	3045

■ **THREE MONTH ECU FUTURES** (LIFFE) Ecu1m points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	95.48	95.49	+0.01	95.49	95.47	751	6675
Sep	95.47	95.47	+0.01	95.47	95.45	275	3586
Dec	95.27	95.28	+0.02	[illegible]	95.25	250	2902
Mar	94.93	94.95	+0.02	94.93	94.93	2	1781

* LIFFE futures also traded on APT

■ **EUROLIRA OPTIONS** (LIFFE) L1000m points of 100%

Strike Price	CALLS Jun	Sep	Dec	PUTS Jun	Sep	Dec
9025	0.43	0.86	1.04	0.24	0.26	0.34
9050	0.29	0.70	0.87	0.35	0.35	0.42
9075	0.17	0.54	0.71	0.48	0.44	0.51

Est. vol. total, Calls 1750 Puts 301. Previous day's open int., Calls 19459 Puts 10890

CROSS RATES AND DERIVATIVES

EXCHANGE CROSS RATES

Apr 2		BFr	DKr	FFr	DM	I£	L	Fl	NKr	Es	Pta	SKr	SFr	£	C$	$	Y	Ecu
Belgium	(BFr)	100	18.79	16.59	4.869	2.091	5140	5.444	21.09	502.6	409.3	21.92	3.920	2.155	4.455	3.284	352.8	2.616
Denmark	(DKr)	53.22	10	8.829	2.591	1.113	2736	2.897	11.23	267.5	217.8	11.67	2.086	1.147	2.370	1.748	187.8	[illegible]
France	(FFr)	60.28	11.33	10	2.935	1.260	3099	3.282	12.72	303.0	246.7	13.21	2.363	1.299	2.684	1.980	212.7	1.577
Germany	(DM)	20.54	3.859	3.407	1	0.429	1056	1.118	4.333	103.2	84.06	4.502	0.805	0.443	0.915	0.675	72.47	0.537
Ireland	(I£)	47.84	8.988	7.935	2.329	1	2459	2.604	10.09	240.4	195.8	10.48	1.875	1.031	2.130	1.571	168.8	1.252
Italy	(L)	1.945	0.365	0.323	0.095	0.041	100.	0.106	0.410	9.776	7.962	0.426	0.076	0.042	0.087	0.064	6.864	0.051
Netherlands	(Fl)	18.37	3.451	3.047	0.894	0.384	944.2	1	3.875	92.32	75.18	4.025	0.720	0.396	0.818	0.603	64.81	0.481
Norway	(NKr)	47.40	8.907	7.864	2.308	0.991	2437	2.581	10	238.3	194.0	10.39	1.858	1.022	2.111	1.557	167.2	1.240
Portugal	(Es)	19.90	3.738	3.301	0.969	0.416	1023	1.083	4.197	100.	81.43	4.361	0.780	0.429	0.886	0.654	70.20	0.521
Spain	(Pta)	24.43	4.591	4.053	1.190	0.511	1256	1.330	5.154	122.8	100.	5.356	0.958	0.527	1.089	0.803	86.20	0.639
Sweden	(SKr)	45.62	8.572	7.568	2.221	0.954	2345	2.484	9.624	229.3	186.7	10	1.788	0.983	2.031	1.499	161.0	1.194
Switzerland	(SFr)	25.51	4.793	4.231	1.242	0.533	1311	1.389	5.381	128.2	104.4	5.591	1	0.550	1.136	0.838	89.99	0.667
UK	(£)	46.40	8.718	7.697	2.259	0.970	2385	2.526	9.788	233.2	189.9	10.17	1.819	1	2.066	1.524	163.7	1.214
Canada	(C$)	22.46	4.220	3.726	1.093	0.470	1154	1.223	4.738	112.9	91.92	4.923	0.880	0.484	1	0.738	79.24	0.588
US	($)	30.45	5.720	5.051	1.482	0.636	1565	1.657	6.423	153.0	124.6	6.673	1.194	0.656	1.356	1	107.4	0.797
Japan	(Y)	28.34	5.326	4.702	1.380	0.593	1457	1.543	5.979	142.5	116.0	6.213	1.111	0.611	1.262	0.931	100.	0.742
Ecu		38.22	7.181	6.340	1.861	0.799	1965	2.081	8.063	192.1	156.4	8.377	1.498	0.824	1.702	1.255	134.8	1

Danish Kroner, French Franc, Norwegian Kroner, and Swedish Kronor per 10; Belgian Franc, Yen, Escudo, Lira and Peseta per 100.

■ **D-MARK FUTURES** (IMM) DM 125,000 per DM

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	0.6768	0.6774	+0.0005	0.6787	0.6767	20,453	61,099
Sep	-	0.6813	+0.0007	0.6816	-	66	2,127
Dec	-	0.6850	+0.0007	0.6850	-	5	192

■ **JAPANESE YEN FUTURES** (IMM) Yen 12.5 per Yen 100

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	0.9399	0.9398	+0.0004	0.9427	0.9385	20,925	72,710
Sep	0.9537	0.9516	+0.0008	0.9537	0.9516	65	1,728
Dec	-	0.9622	-	-	-	57	1,331

■ **SWISS FRANC FUTURES** (IMM) SFr 125,000 per SFr

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	0.8438	0.8435	-0.0001	0.8459	0.8434	8,941	28,044
Sep	0.8530	0.8515	+0.0002	0.8530	0.8516	23	615
Dec	-	0.8588	-	-	-	2	804

■ **STERLING FUTURES** (IMM) £62,500 per £

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	1.5232	1.5218	-0.0018	1.5254	1.5216	4,146	48,018
Sep	-	1.5210	-0.0002	1.5220	1.5210	3	39
Dec	-	1.5190	+0.0002	1.5190	-	3	32

UK INTEREST RATES

LONDON MONEY RATES

Apr 2	Over-night	7 days notice	One month	Three months	Six months	One year
Interbank Sterling	6½ - 4½	6 - 5⅞	6⅛ - 5⅞	6⅛ - 6	6⅛ - 6	6⅞ - 6⅜
Sterling CDs	-	-	5⅞ - 5⅞	6⅛ - 5⅞	6⅛ - 6	6⅜ - 6¼
Treasury Bills	-	-	5⅞ - 5¾	5⅞ - 5¾	-	-
Bank Bills	-	-	5⅞ - 5¾	5¾ - 5⅞	5⅝ - 5⅞	-
Local authority deps.	5⅞ - 5½	5⅞ - 5⅞	6 - 5⅞	6⅛ - 5⅞	6⅛ - 6	6⅜ - 6¼
Discount Market deps	6 - 5½	5⅞ - 5¾	-	-	-	-

UK clearing bank base lending rate 6 per cent from March 8, 1996

	Up to 1 month	1-3 month	3-6 months	6-9 months	9-12 months
Certs of Tax dep. (£100,000)	2½	5½	5	5	4¾

Certs of Tax dep. under £100,000 is 2½pc. Deposits withdrawn for cash 1½pc. Ave. tender rate of discount on Mar 29, 5.7209pc. ECGD fixed rate Stlg. Export Finance. Make up day Mar 29, 1996. Agreed rate for period Apr 26, 1996 to May 25, 1996, Schemes II & III 7.38pc. Reference rate for period Mar 1, 1996 to Mar 29, 1996, Schemes IV & V 6.133pc. Finance House Base Rate 6.5pc from April 1, 1996

■ **THREE MONTH STERLING FUTURES** (LIFFE) £500,000 points of 100%

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	93.94	93.95	+0.01	93.96	93.93	5442	78594
Sep	93.77	93.78	+0.01	93.79	93.76	4955	58905
Dec	93.41	93.43	+0.02	93.44	93.40	4368	53997
Mar	92.97	93.00	+0.02	93.01	92.96	2910	38399
Jun	92.63	92.65	+0.02	92.67	92.61	2164	31259

Also traded on APT. All Open interest figs. are for previous day.

■ **SHORT STERLING OPTIONS** (LIFFE) £500,000 points of 100%

Strike Price	CALLS Jun	Sep	Dec	PUTS Jun	Sep	Dec
9375	0.25	0.27	0.27	0.05	0.24	0.59
9400	0.09	0.15	0.18	0.14	0.37	0.75
9425	0.02	0.07	0.12	0.32	0.64	0.94

Est. vol. total, Calls 800 Puts 1451. Previous day's open int., Calls 113232 Puts 105587

EMS EUROPEAN CURRENCY UNIT RATES

Apr 2	Ecu cen. rates	Rate against Ecu	Change on day	% +/- from cen. rate	% spread v weakest	Div. ind.
Spain	162.493	158.383	+0.025	-1.93	4.74	18
Netherlands	2.15214	2.12061	-0.00039	-1.47	4.25	11
Belgium	39.3960	38.9575	+0.0027	-1.11	3.87	8
Austria	13.4383	13.3314	-	-0.80	3.54	6
Germany	1.91007	1.89584	+0.00014	-0.74	3.49	7
Portugal	195.792	195.511	-0.174	-0.14	2.87	1
Denmark	7.28580	7.31789	+0.00095	0.44	2.27	-3
France	6.40608	6.46219	+0.00182	0.88	1.83	-7
Ireland	0.792214	0.813748	+0.000339	2.72	0.00	-18
NON ERM MEMBERS						
Greece	292.867	308.549	-0.82	5.35	-2.50	-
Italy	2106.15	2005.15	-1.88	-4.80	7.89	-
UK	0.786652	0.838974	+0.000018	6.65	-3.69	-

Ecu central rates set by the European Commission. Currencies are in descending relative strength. Percentage changes are for Ecu; a positive change denotes a weak currency. Divergence shows the ratio between two spreads: the percentage difference between the actual market and Ecu central rates for a currency, and the maximum permitted percentage deviation of the currency's market rate from its Ecu central rate.
(17/9/92) Sterling and Italian Lira suspended from ERM. Adjustment calculated by the Financial Times.

■ **PHILADELPHIA SE £/$ OPTIONS** £31,250 (cents per pound)

Strike Price	CALLS Apr	May	Jun	PUTS Apr	May	Jun
1.500	2.51	2.77	3.22	0.04	0.35	0.69
1.510	1.57	2.09	2.57	0.14	0.62	1.23
1.520	0.82	1.47	2.05	0.30	1.00	1.65
1.530	0.31	0.96	1.56	0.79	1.51	2.17
1.540	0.07	0.61	1.17	1.53	2.14	2.71
1.550	-	0.35	0.84	2.43	2.82	3.38

Previous day's vol., Calls 4,286 Puts 5,980 . Prev. day's open int., Calls 144,105 Puts 158,088

■ **THREE MONTH EURODOLLAR** (IMM) $1m points of 100%

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	94.59	94.59	-	[illegible]	94.59	24,324	419,788
Sep	94.46	94.47	+0.01	94.50	94.46	48,347	341,959
Dec	94.28	94.30	+0.04	94.32	94.28	60,450	316,384

■ **US TREASURY BILL FUTURES** (IMM) $1m per 100%

	Open	Latest	Change	High	Low	Est. vol	Open int.
Jun	95.06	95.06	-	95.07	95.06	1,206	9,759
Sep	94.95	94.95	+0.04	94.95	94.94	37	3,510
Dec	-	94.80	+0.04	94.80	-	2	229

All Open interest figs. are for previous day

■ **EUROMARK OPTIONS** (LIFFE) DM1m points of 100%

Strike Price	CALLS Apr	May	Jun	Sep	PUTS Apr	May	Jun	Sep
9675	0.07	0.10	0.12	0.15	0.03	0.06	0.08	0.20
9700	0.01	0.02	0.03	0.06	0.22	0.23	0.24	0.35
9725	0	0	0.01	0.02	0.46	0.48	0.47	0.56

Est. vol. total, Calls 10086 Puts 12407. Previous day's open int., Calls 322246 Puts 285366

■ **EURO SWISS FRANC OPTIONS** (LIFFE) SFr 1m points of 100%

Strike Price	CALLS Jun	Sep	Dec	PUTS Jun	Sep	Dec
9825	0.14	0.19	0.16	0.09	0.22	0.46
9850	0.04	0.09	0.08	0.24	0.37	0.63
9875	0.01	0.04	0.03	0.46	0.57	0.83

Est. vol. total, Calls 0 Puts 0. Previous day's open int., Calls 3265 Puts 3046

BASE LENDING RATES

	%		%		%
Adam & Company	6.00	Duncan Lawrie	6.00	Royal Bk of Scotland	6.00
Allied Trust Bank	6.00	Exeter Bank Limited	7.25	•Singer & Friedlander	6.00
AIB Bank	6.00	Financial & Gen Bank	7.00	•Smith & Williamson Secs	6.00
•Henry Ansbacher	6.00	•Robert Fleming & Co	6.00	TSB	6.00
Bank of Baroda	6.00	Girobank	6.00	United Bank of Kuwait	6.00
Banco Bilbao Vizcaya	6.00	•Guinness Mahon	6.00	Unity Trust Bank Plc	6.00
Bank of Cyprus	6.00	Habib Bank AG Zurich	6.00	Western Trust	6.00
Bank of Ireland	6.00	•Hambros Bank	6.00	Whiteaway Laidlaw	6.00
Bank of India	6.00	Heritable & Gen Inv Bk	6.00	Yorkshire Bank	6.00
Bank of Scotland	6.00	•Hill Samuel	6.00		
Barclays Bank	6.00	C. Hoare & Co	6.00		
Brit Bk of Mid East	6.00	Hongkong & Shanghai	6.00		
•Brown Shipley & Co Ltd	6.00	Julian Hodge Bank	6.00		
Citibank NA	6.00	•Leopold Joseph & Sons	6.00		
Clydesdale Bank	6.00	Lloyds Bank	6.00		
The Co-operative Bank	6.00	Meghraj Bank Ltd	6.00		
Coutts & Co	6.00	Midland Bank	6.00		
Credit Lyonnais	6.00	* Mount Credit Corp	6.00		
Cyprus Popular Bank	6.00	NatWestminster	6.00		
		•Rea Brothers			

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LONDON SHARE SERVICE

ALCOHOLIC BEVERAGES

	Notes	Price	+ or -	52 week high	low	Mkt Cap£m	Yld Gr's	P/E
Allied Domecq	aWv□	497	+5	568	476½	5,148	5.9	18.0
Bulmer (HP)		623	+6½	623	401	328.9	2.5	19.5
Burn St Dist		117	+2	140	99	69.4	5.4	24.9
Grand Met		422½xd	+1½	497	374	8,647	4.4	18.2
Guinness		481xd	-1	538	435	8,878	4.0	15.7
Highland		352	+8	406	315	468.9	2.9	16.3
Kirin Y	□	792½	-12¼	808	621	8,341	0.8	30.9
Macallan-Glen		182	+1	217	150	190.2	1.1	ф
Macdon Martin A		603	—	680	600	88.7	2.2	17.8
Matthew Clark		725xd	—	737	569	640.2	3.8	—
Merrydown		103	—	140	88	11.2	2.4	—
Seagram S		£21[illegible]	[illegible]	£25[illegible]	£16[illegible]	5,935	1.3	—

BANKS, MERCHANT

	Notes	Price	+ or -	52 week high	low	Mkt Cap£m	Yld Gr's	P/E
Barings 8pc Cn 2nd Pf		501½	—	[illegible]	501½	6.31	19.8	—
Cater Allen		448	—	525	424	148.9	8.4	7.4
Close Bros	□	371xd	—	392	256¼	493.0	3.0	16.5
Gerrard & Nat		403	—	472	399	197.1	7.0	13.0
Hambros	□	243	-6	258	180	429.9	3.9	—
7½pc Cv Pf		111	+1	111	94½	143.0	6.4	—
King & Shaxson	□	157	—	185	85	41.4	7.2	12.2
Leopold J		450	—	483	353	23.9	5.2	15.5
Rea Brothers		56xd	—	67	44	28.0	2.2	ф
Schroders	□	1263xd	—	1478	1022	1,816	1.7	16.8
N/V		943xd	—	1180	890	414.9	2.1	13.2
Singer & Fried	□	101	+1	113	81	189.5	5.1	7.9
8½pc Cv Ln 09/14		£124½xd	[illegible]	£137	[illegible]	38.2	6.8	—
Union	□	100xd	—	121	71	27.4	3.6	ф
[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

BANKS, RETAIL

[illegible]

BREWERIES, PUBS & REST

[illegible]

BUILDING & CONSTRUCTION

[illegible]

BUILDING MATS. & MERCHANTS

[illegible]

CHEMICALS

[illegible]

DISTRIBUTORS

[illegible]

DIVERSIFIED INDUSTRIALS

[illegible]

ELECTRICITY

[illegible]

ELECTRONIC & ELECTRICAL EQPT

[illegible]

ELECTRONIC & ELECTRICAL EQPT - Cont.

[illegible]

ENGINEERING

[illegible]

ENGINEERING - Cont.

[illegible]

ENGINEERING, VEHICLES

[illegible]

EXTRACTIVE INDUSTRIES

[illegible]

EXTRACTIVE INDUSTRIES - Cont.

[illegible]

FOOD PRODUCERS

[illegible]

GAS DISTRIBUTION

[illegible]

HEALTH CARE

[illegible]

HEALTH CARE - Cont.

[illegible]

HOUSEHOLD GOODS

[illegible]

INSURANCE

[illegible]

INVESTMENT TRUSTS

Approved by the Inland Revenue

[illegible]

INVESTMENT TRUSTS - Cont.

[illegible]

INV TRUSTS SPLIT CAPITAL

Approved by the Inland Revenue

[illegible]

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LONDON SHARE SERVICE

INV TRUSTS SPLIT CAPITAL - Cont.

LEISURE & HOTELS - Cont.

OTHER FINANCIAL - Cont.

PROPERTY - Cont.

SUPPORT SERVICES - Cont.

AIM - Cont.

The Aim listing above is regarded as unregulated by The London Stock Exchange and has been classified by the FT as at AIM Official List.

LIFE ASSURANCE

MEDIA

PAPER, PACKAGING & PRINTING

RETAILERS, FOOD

RETAILERS, GENERAL

TELECOMMUNICATIONS

TEXTILES & APPAREL

AMERICANS

CANADIANS

TOBACCO

TRANSPORT

OTHER INVESTMENT TRUSTS

INVESTMENT COMPANIES

LEISURE & HOTELS

OIL, EXPLORATION & PRODUCTION

PHARMACEUTICALS

RETAILERS, GENERAL - Cont.

PROPERTY

WATER

SUPPORT SERVICES

AIM

OIL, INTEGRATED

OTHER FINANCIAL

SOUTH AFRICANS

	Notes	Price	+ or -	52 week high	low	Mkt Cap£m	Yld Gr's	P/E
Anglo Am Ind		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	3.0	[illegible]
Barlow		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.7	[illegible]
Energy Africa		164	[illegible]	174	[illegible]	[illegible]	–	–
Gold Flds Prop R		[illegible]	[illegible]	170	138	14.2	7.1	9.4
NK Props		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	11.6	–
SASOL		[illegible]	–1	648	475	[illegible]	2.0	–
SA Brews		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.5	[illegible]
Standard Bank		[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	1.5	[illegible]
Tiger Oats		[illegible]	–	[illegible]	[illegible]	[illegible]	1.7	[illegible]
Tongaat-Hulett		[illegible]	–	[illegible]	[illegible]	[illegible]	1.9	18.7

GUIDE TO LONDON SHARE SERVICE

Prices for the London Share Service delivered by FT Extel, a member of the Financial Times Group.

Company classifications are based on those used for the FT-SE Actuaries Share Indices.

Closing mid-prices are shown in pence unless otherwise stated. Highs and lows are based on intra-day mid-prices over a rolling 52 week period.

Where stocks are denominated in currencies other than sterling, this is indicated after the name.

Symbols referring to dividend status appear in the notes column daily as a guide to yields and P/E ratios. Dividends and Dividend covers are published on Monday.

Market capitalisation shown is calculated separately for each line of stock quoted.

Earnings used in calculations are based on IIMR 'Headline Earnings' formula.

Price/earnings ratios are based on latest annual reports and accounts and, where possible, are updated on interim figures.

Yields are based on mid-prices, are gross, adjusted for a dividend tax credit of 20 per cent and allow for value of declared distribution and rights.

Estimated Net Asset Values (NAVs) are shown for Investment Trusts, in pence per share, along with the percentage discounts (Dis) or premiums (Pm -) to the current closing share price. The NAV basis assumes prior charges at par value, convertibles converted and warrants exercised if dilution occurs.

- □ Indicates the most actively traded stocks. This includes UK stocks where transactions and prices are published continuously through the Stock Exchange Automated Quotation system (SEAQ) and non-UK stocks through the SEAQ International system.
- * Highs and lows marked thus have been adjusted to allow for capital changes
- † Interim since increased or resumed
- ‡ Interim since reduced, passed or deferred
- ♦ Figures or report awaited
- ♥ Rule 2.1(a)(iv) Overseas incorporated companies listed on an approved exchange.
- ♣ Free annual/interim report available, see details below.
- ♠ USM; not listed on Stock Exchange and company not subjected to same degree of regulation as listed securities.
- ‡‡ Rule 4.2(a) Irish incorporated non-listed companies.
- # Price at time of suspension
- ¶ Indicated dividend yield after pending scrip and/or rights issue.
- ♦ Merger bid or reorganisation in progress
- § Forecast dividend yield; p/e based on earnings updated by latest interim statement.
- ♦ Unregulated collective investment scheme.

a Yield based on annualised dividend
b Figures based on prospectus or other official estimates.
g Assumed dividend yield after rights issue.
h Assumed dividend yield after scrip issue.
o Rights issue pending
q Earnings based on preliminary figures.
s Dividend yield excludes a special payment.
t Indicated dividend yield, p/e ratio based on latest annual earnings.
u Forecast, or estimated annualised dividend yield, p/e based on previous year's earnings
v P/e ratios are calculated under new ACT guidelines.
z Dividend yield includes a special payment
F Yield based on prospectus or other official estimates for 1996-97.
G Assumed yield after pending scrip and/or rights issue.
H Yield based on prospectus or other official estimates for 1995.
K Yield based on prospectus or other official estimates for 1996
L Estimated annualised yield, p/e based on latest annual earnings.
M Yield based on prospectus or other official estimates for 1995-96.
R Forecast annualised yield, p/e based on prospectus or other official estimates.
W Pro forma figures.
Z Dividend yield to date.

Abbreviations:
xd ex dividend;
xc ex scrip issue;
xr ex rights;
xa ex all;
xf ex capital distribution.

This service is available to companies whose shares are regularly traded in the United Kingdom for a fee of £1350 a year for each security shown, subject to the Editor's discretion

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For readers phoning from outside UK, please dial +44 in place of the first 0.

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OFFSHORE AND OVERSEAS

BERMUDA (SIB RECOGNISED)

Fidelity Currency Funds Ltd
Pembroke Hall, Pembroke, Bermuda
UK Prof Advisers 0800 414181 Jersey 01534 71696
Private Clients 0800 414161

[illegible]

Prices for dealing April 4th

Jupiter Tyndall (Bermuda) Ltd
PO Box HM1256, Hamilton, Bermuda 001 809 292 2760
Jupiter Tyndall World Umbrella Fund Ltd

[illegible]

Newport Investment Management
Front Street, Hamilton, Bermuda
UK 0171 338 6898 Dealing 01481 702000

[illegible]

Orion Fund Limited

[illegible]

BERMUDA (REGULATED)(**)

Bermuda Intl Invest Mgmt Ltd

[illegible]

Orbis Investment Management Ltd

[illegible]

GUERNSEY (SIB RECOGNISED)

AIB Investment Managers (Guernsey) Ltd

[illegible]

Royal Bank of Canada O/S Fd Mgrs Ltd

[illegible]

Royal Bk of Canada O/S Fd Mgrs Ltd - Contd.
Intl Currencies Fd Ltd

[illegible]

Latest Fund Prices 24hr service 01481 718043

Sarasin Funds Mngmt (Guernsey) Ltd
PO Box 246, St Peter Port, Guernsey 01481 723021

[illegible]

Schroder Investment Mngmt (Guernsey) Ltd
PO Box 255, St Peter Port, Guernsey 01481 710651

[illegible]

GUERNSEY (REGULATED)(**)

ANZ Mngmt Co (Guernsey) Ltd
Emerging Mkts Lead to Phila. | $16.35 | 16.64 | | –

Apollo Investment Management Ltd

[illegible]

Arab Bank Fund Managers (Guernsey) Ltd
AB International Fund Ltd

[illegible]

BZW Asset Management Guernsey Ltd
Japan Index Fund | Y2424 | 2450 | | –

Bachmann Global Investment Fund Ltd

[illegible]

CIBC Fund Managers (Guernsey) Ltd

[illegible]

IRELAND (SIB RECOGNISED)

[illegible]

LGT Asset Management Ltd

[illegible]

IRELAND (REGULATED)(**)

[illegible]

Daiwa Europe Fund Mgrs Ireland Ltd - Contd.

[illegible]

ISLE OF MAN (SIB RECOGNISED)

[illegible]

Mercury Fund Managers (IoM) Ltd

[illegible]

ISLE OF MAN (REGULATED)(**)

[illegible]

JERSEY (SIB RECOGNISED)

[illegible]

JERSEY (REGULATED)(**)

[illegible]

INVESCO International Limited - Contd.

[illegible]

LUXEMBOURG (SIB RECOGNISED)

[illegible]

EquiFund-Wright National Eqty Fd

[illegible]

S-E-Banken Luxembourg SA

[illegible]

LUXEMBOURG (REGULATED)(**)

[illegible]

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OFFSHORE INSURANCES

FT MANAGED FUNDS SERVICE

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	Selling Price	Buying Price	+ or -	Yield Gross
Credit Investment Funds - Contd.				
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Credit Commercial de France				
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

	Selling Price	Buying Price	+ or -	Yield Gross
Pictet Group				
Asia Growth	$103.12		-	-
Pictet Country Fund UK	£85.53		-	-
Pictet Targeted Fund				
[illegible]	[illegible]		-	-
Pictet Institutional Funds				
Emerging Markets	£109.03		-	-
REIG Global Funds				
[illegible]	[illegible]		-	-
River & Mercantile Latin American SICAV				
Latin American NAV	$9.70		+0.07	-
Rosenberg Global Mngt Co SA				
Rosenberg Alpha Fund Global				
Portfolio A NAV	[illegible]		-	-
Portfolio B NAV	[illegible]		-	-
Rosenberg Management SA				
Rosenberg Alpha Fund Yield				
Portfolio A NAV	[illegible]		-	-
Portfolio B NAV	[illegible]		-	-
Rosenberg US Japan Mngmt USA				
Rosenberg Alpha Fund US Japan				
[illegible]	[illegible]		-	-
S.d.G. Edmond de Rothschild (Luxembourg)				
Luxembourg Domiciled Funds				
[illegible]	[illegible]		-	-

OTHER OFFSHORE FUNDS

	Selling Price	Buying Price	+ or -	Yield Gross
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

OFFSHORE INSURANCES

	Selling Price	Buying Price	+ or -	Yield Gross
AXA Equity & Law Intl Life Assce Co				
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

MANAGED FUNDS NOTES

[illegible]

LONDON STOCK EXCHANGE

MARKET REPORT

Speculators still hot on the takeover trail

By Steve Thompson,
UK Stock Market Editor

Another sudden burst of takeover speculation involving a FT-SE 100 constituent – this time Thorn EMI – was just the excuse the stock market was looking for to give leading share prices a much needed lift yesterday.

The latest bout of intense bid rumours accompanied a good rally in gilts and left the FT-SE 100 index comfortably clear of the 3,700 level at 3,728.5, up 10.1 on the day.

The market's second liners, represented by the FT-SE Mid 250 index, gave another powerful demonstration of the underlying strength of the domestic stocks, advancing all day and ending 21.8 ahead at another all-time high of 4,348.7. The Mid 250 index has consistently outpaced the Footsie so far this year, as has the Small Cap index.

London's performance was all the more impressive in that Wall Street was looking soggy shortly after US markets opened, with the Dow Jones Industrial Average showing a double-digit fall after an early rise of around 15 points.

Thorn EMI shares suddenly erupted in the early afternoon, with domestic and US buyers driving the stock up to a record high of £18.43, amid strong rumours that a straight takeover bid was being prepared ahead of the proposed July demerger of the music business.

The market trotted out all the usual suspects as potential bidders for Thorn, including Japan's Sony and Time Warner, of the US; another candidate thought likely to be strongly interested in EMI was MCA, the Seagram subsidiary.

Wall Street's overnight surge, which saw the Dow up more than 50 points shortly before the close, in the wake of a series of mega-mergers and bids, helped the Footsie open almost 15 points higher.

The initial burst of enthusiasm soon petered out, however, and the index slipped into negative ground in mid-morning, with Cable and Wireless and BT, the two stocks that have been the driving force in London in recent sessions, among the worst performers.

This was in the wake of news that France Telecom and Deutsche Telekom had indicated they were not interested in bidding for Mercury, C&W's UK telecoms division. The retreat in C&W and BT was worth just under four Footsie points.

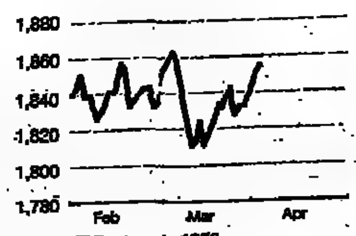
Good gains in international bond markets, which led to gilts recouping all their initial small losses and posting eventual closing rises of between 9 and 14 ticks, then began to have an impact on equities.

Dealers said it was the Thorn story that had transformed sentiment. "Ex-Thorn the market was struggling, and without a bid it is definitely winding down for the Easter break," said one senior marketmaker.

He added that most of the big marketmakers in London were wary of adopting big stock positions ahead of Good Friday, when London is closed while the US non-farm payroll number for March is published. February's exceptionally strong US employment report sent Wall Street tumbling.

Turnover at 6pm reached 920.9m shares, with non-Footsie stocks accounting for 60 per cent of the total. Customer business on Monday was a disappointing £1.14bn.

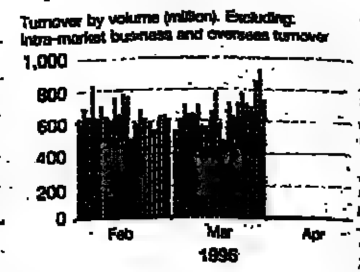
FT-SE-A All-Share Index



Source: FT Extel

Equity shares traded

Turnover by volume (million). Excluding: intra-market business and overseas turnover



Indices and ratios

FT-SE 100	3728.5	+10.1
FT-SE Mid 250	4348.7	+21.8
FT-SE-A 350	1877.2	+6.0
FT-SE-A All-Share	1855.90	+5.68
FT-SE-A All-Share yield	3.79	3.80

FT Ordinary index	2796.5	+15.5
FT-SE-A Non Fins p/e	17.11	17.05
FT-SE 100 Fut Jun	3736.0	+6.0
10 yr Gilt yield	8.05	8.09
Long gilt/equity yld ratio:	2.21	2.22

Best performing sectors

1. Tobacco ..... +3.5
2. Gas Distribution ..... +3.2
3. Life Assurance ..... +1.9
4. Leisure & Hotels ..... +1.6
5. Insurance ..... +1.3

Worst performing sectors

1. Extractive Inds ..... -1.0
2. Telecommunications ..... -0.8
3. Diversified Inds ..... -0.5
4. Transport ..... -0.4
5. Food Producers ..... -0.3

Bid talk returns to Thorn

Bid fever gripped the market in mid-afternoon trading yesterday as talk of a 2300p a share bid for Thorn EMI spread like a forest fire.

The shares, already showing a 10p gain on the previous day's close, moved sharply ahead on suggestions that Thorn would soon be on the receiving end of a bid.

There was no consensus on who was the most likely bidder for the UK group, but the list of suitors talked about in the market included Sony and Sanyo Electric, both of Japan, while Time Warner, of the US, and Canadian group Seagram, which owns MCA records, were also mentioned as possible bidders.

Thorn powered ahead amid the speculation and, in spite of some selling at the higher levels, rose by more than 8 per cent, breaking through the 1800p barrier for the first time to finish 140 up at 1843p. Turnover was a busy 2.5m. The company would only say it knew of no reason for the sharp share price move.

However, with Thorn due to demerge its EMI Music from the rental business in August, several analysts poured cold water on the prospect of a bid and one said: "I would be sceptical about a bid at this stage in the demerger process."

British Gas, which has been restrained by regulatory worries, surprised the market with an upward burst that was backed by heavy turnover.

It appeared that UBS had dealt 500 out-of-the-money June 240 calls – options to buy Gas shares for 240p at any time until June.

Although the volume represented no more than 500,000 shares, it was backed by some genuine buying in the underlying market. Dealers said Gas was a preferred stock for Pep funds, which are pouring money into the market ahead of the end of the financial year. Gas shares rose 7½ to 235½p, with 20m changing hands.

BT and Cable and Wireless fell as hopes faded of an early disposal of C&W's 80 per cent stake in Mercury, the mobile phone group.

C&W will have to sell its stake to placate the industry regulator if, as expected, it intends to merge with BT.

On Monday it was reported that Deutsche Telekom, Europe's largest telephone operator, was emerging as the preferred buyer of Mercury Communications. Yesterday, France Telecom said neither it, nor Deutsche Telekom, nor their joint venture, had any interest in Mercury.

BT shares came off 7 to 375¼p and C&W receded 9 to 529p with 34m shares traded between them. In contrast, Vodafone was up 6½ to 255½p following encouraging subscriber figures on Monday. And Orange improved 8½ to 234p after an earlier issue of covered warrants.

Dealers looked set to breathe a sigh of relief as word of the end of the petrol price war circulated late in the day.

The talk suggested that food retailers, which account for around 20 per cent of UK petrol sales, are in the process of increasing forecourt prices by around 2p. Analysts said this was an indication that the cut-throat price war was drawing to a close and would thus help ease margin pressures in the sector.

However, there was little action in the individual stocks yesterday. **J. Sainsbury** closed 2 down at 367p, while a two-way pull in **Tesco** left the shares ½ lighter at 266½p after trade of 7.6m. **Asda Group** hardened ½ to 107p as volume rose to 9.8m.

Shell Transport moved forward 7 to 847p, with ABN Amro Hoare Govett reiterating its buy stance.

Satellite broadcaster **BSkyB** lost 13 at 438p in the wake of comments from NatWest Securities, which pointed to increasing competition for sports coverage.

Carlton Communications and Mirror Group Newspapers are seen as likely contenders to bid for football rights. The broker also considers the threat of regulatory moves from the Office of Fair Trading more likely, once rivals bid for football rights.

NatWest reiterated its "reduce" stance and argued that BSkyB could underperform the market by 10 per cent over the next 12 months.

United News & Media improved 24 to 645p as it announced that the merger offer for **MAI** had been declared unconditional. MAI shares gained 16 at 413p.

Heavy buying of pharmaceuticals stocks in the US on Monday night gave a lift to **SmithKline Beecham**, the most exposed of the UK drug leaders to the US market. There was apparently switching into SmithKline from Glaxo and the former rose 18 to 685p in the "A"s. Glaxo slid 6 to 807p.

Zeneca ticked up 15 to 1403p – a record closing high – and attracted the almost inevitable bid speculation which continues to surround the company.

Composite insurers picked up with help from Societe Generale Strauss Turnbull and the return of takeover rumours.

SGST moved from underweight to buy on the sector and featured **General Accident and Guardian Royal Exchange** as its key trading buy recommendations. GenAcc rose 3 to 621p. GRE, a persistent bid target, added 7 at 230p; turnover in the shares was 14m, the heaviest ever recorded.

In the life assurance sector, well received figures, including a bumper dividend, from **United Friendly** prompted the shares to rise 32 to 809p.

Oasis Stores jumped 15 to 297p after full-year profits in line with forecasts. Analysts said the fashion retailer had strong potential to open stores in other parts of the country.

A profits warning at Liberty, the fashion and fabric retailer, left the shares only 3 down at 300p, with a sharp initial fall retrieved by the announcement that Mr Ian Thomson, the former director of Sears subsidiary British Shoe Corporation, is to take over as chief executive with immediate effect.

Analysts were disappointed by the interim results from **Highland Distilleries**, producers of the Famous Grouse, but firmer prices and increased sales of new and mature whiskies to blenders helped to lift the share price by 8 to 352p.

T&N declined 4 to 188p after losing its appeal against a ruling that it is liable to pay compensation to victims of asbestos dust.

The two UK generators shone out in a strong electricity sector as Merrill Lynch repeated its buy recommendations for **PowerGen and National Power** and raised its forecast for the former.

Powergen improved 3 to 544p, after Merrill lifted its current year dividend forecast to 20p a share from 18.5p. National Power moved forward 8 to 486p.

The market was relieved that figures from **Tarmac** were not as bad as had been feared in some quarters. The shares gained 8½ to 119p, topping the list of the day's most active stocks in the Mid 250 index.

Granada Group gained 16½ to 777½p, following a recommendation from Merrill Lynch. The broker said there was a positive trading outlook for Forte and Granada's other businesses and also suggested the outlook on disposals was favourable.

Merrill Lynch said the shares were a buy up to 800p.

MARKET REPORTERS:
Peter John, Joel Kibazo,
Lisa Wood.

FINANCIAL TIMES EQUITY INDICES

	Apr 2	Apr 1	Mar 29	Mar 28	Mar 27	Yr ago	*High	*Low
Ordinary Share	2796.5	2781.0	2768.0	2743.9	2744.8	2441.8	2807.9	2696.7
Ord. div. yield	3.86	3.90	3.92	3.96	3.95	4.39	4.08	3.78
P/E ratio net	16.66	16.49	16.41	16.29	16.28	16.80	17.25	15.96
P/E ratio nil	16.34	16.17	16.09	15.97	15.96	16.71	17.03	15.76

Ordinary Share index since compilation: high 2807.9 05/03/96; low 49.4 26/06/40. Base Date: 1/7/35.

Ordinary Share hourly changes

Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	High	Low
2786.7	2785.3	2781.1	2783.9	2785.3	2788.7	2789.1	2793.1	2797.0	2798.6	2780.8

	Apr 2	Apr 1	Mar 29	Mar 28	Mar 27	Yr ago
SEAQ bargains	32,489	45,817	44,410	45,408	42,771	47,692
Equity turnover (£m)†	-	1138.4	2090.6	2207.4	2253.7	1827.2
Equity bargains†	-	55,709	48,875	54,887	50,407	55,209
Shares traded (ml)†	-	525.9	748.1	966.1	858.8	847.0

†Excluding intra-market business and overseas turnover.

	Apr 2	Apr 1	Mar 29	Mar 28	Mar 27	Yr ago	*High	*Low
FT-SE AIM	990.70	988.00	988.90	990.60	994.50	-	1034.62	965.56

*For 1996.

■ London market data

Rises and falls*		52 Week highs and lows		LIFFE Equity options	
Total Rises	841	Total Highs	189	Total contracts	43,563
Total Falls	479	Total Lows	28	Calls	20,241
Same	1,459			Puts	23,322

Apr.2 *Data based on Equity shares listed on the London Share Service.

FUTURES AND OPTIONS

■ FT-SE 100 INDEX FUTURES (LIFFE) £25 per full index point (APT)

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	3700.0	3736.0	+6.0	3744.0	3721.0	9985	57954
Sep	3745	3743.0	+7.0	3744.5	3737.0	1958	2385
Dec	3730	3771.0	[illegible]	3766.0	3766.0	21	0

■ FT-SE MID 250 INDEX FUTURES (LIFFE) £10 per full index point

	Open	Sett price	Change	High	Low	Est. vol	Open int.
Jun	4360	4385.0	+45.0	4365.0	4365.0	5	3514

■ FT-SE 100 INDEX OPTION (LIFFE) (*3725) £10 per full index point

	3550 C	3550 P	3600 C	3600 P	3650 C	3650 P	3700 C	3700 P	3750 C	3750 P	3800 C	3800 P	3850 C	3850 P	3900 C	3900 P
Apr	184	2½	13½	4½	[illegible]	10	59½	21½	23½	45½	7½	81	1½	129	1	176
May	193½	13½	15	20½	113	32	80	49	52	71½	31½	101½	17	138	9	181
Jun	212½	29	17	40½	138½	52½	104½	71	78½	93	53½	120	37	154	23	191½
Jul	228	42½	192	54½	168	71	128	90	101	113	78	140	58	170½	42½	205½
Dec†			263	105			201	141			184	191			112	249½

Calls 3,016 Puts 8,472

■ EURO STYLE FT-SE 100 INDEX OPTION (LIFFE) £10 per full index point

	3575 C	3575 P	3625 C	3625 P	3675 C	3675 P	3725 C	3725 P	3775 C	3775 P	3825 C	3825 P	3875 C	3875 P	3925 C	3925 P
Apr	187½	4½	112	9½	78½	16½	37	33	18	61½	4½	100	1	146½	7	195½
May	172	18	131	25	94½	38	63½	58½	39	82	22	114½	11	153	5	198½
Jun	187½	30	158½	49	122½	62½	98½	79½	64½	103	44½	132½	31	168	29½	207
Sep			197	[illegible]			140	122½			96	175			62	239
Dec†			254	14½			195½	151½			144½	198½			182½	250

Calls 3,800 Puts 3,069 * Underlying index value. Premiums shown are based on settlement prices. † Long dated expiry months.

LONDON RECENT ISSUES: EQUITIES

Issue price p	Amt paid up	Mkt. cap (£m.)	1996 High	1996 Low	Stock	Close price p	+/-	Net div.	Div. cov.	Grs yld	P/E net
55	F.P.	61.0	60	56	Chelsea Village	58	-2	-	-	-	-
100	F.P.	15.0	137	105	Easynet	105	-3	-	-	-	-
165	F.P.	37.1	183	180	†First Info	183		-	-	-	-
-	F.P.	46.5	56	53	Fleming Wrld Inc	54		4.58	-	9.5	-
-	F.P.	99.5	100	100	Fulmer	100		L4.3	1.7	2.8	18.5
-	F.P.	30.9	95	93½	GT Inc Gwth Tst	[illegible]					
100	F.P.	27.2	97	95	Hill Sml UK Emg Co	[illegible]					
75	F.P.	18.5	88	75½	ILP Group	[illegible]					
-	F.P.	30.9	143	108	†IOC Intl	[illegible]					
100	60	[illegible]	55	49	Life Offices Opport	[illegible]					
145	F.P.	109.6	161	146	Macdonald Hotels	[illegible]					
125	F.P.	14.1	130	113	†Manse & Merc	[illegible]					
-	F.P.	29.0	702	683	New Asia Fund	[illegible]					
205	F.P.	2,939	244	220	Orange	[illegible]					
800	F.P.	177.7	815	88	Perp Inc & Gwth	[illegible]					
100	F.P.	18.5	105	103	†Prmry Hlth Props	[illegible]					
32	F.P.	3.05	34	32	Raphael Zorn	[illegible]					
3	F.P.	5.29	4	3½	Silver Shield	[illegible]					
120	F.P.	37.8	[illegible]	123	Stadium Group	[illegible]					
115	F.P.	17.2	135	125	†Systs Integ Rech	[illegible]					
135	F.P.	[illegible]	163	133	Tried Group	[illegible]					

† Alternative Investment Market. For a full explanation of all other symbols please refer to the London Share Service notes.

FT GOLD MINES INDEX

	Apr 1	% chg on day	Mar 29	Year ago	Gross div yield %	P/E ratio	52 wk High	52 wk Low
Gold Mines Index (36)	[illegible]	-0.5	2234.02	1829.82	1.41	-	2320.73	[illegible]
■ Regional Indices								
Africa (13)	3093.09	-2.1	3158.58	2728.86	2.71	33.20	3553.86	[illegible]
Australasia (8)	2720.74	+2.3	2660.43	2112.78	2.36	[illegible]	2927.34	[illegible]
North America (12)	3047.27	-0.2	2051.48	1675.16	0.66	65.75	2186.38	14.94

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FT - SE Actuaries Share Indices — The UK Series

	Apr 2	Day's chge%	Apr 1	Mar 29	Mar 28	Year ago	Div. yield%	Net cover	P/E ratio	Xd adj. ytd	Total Return
FT-SE 100	3728.5	+0.3	3718.4	3699.7	3672.6	3168.1	3.86	2.12	14.83	56.10	1613.8[illegible]
FT-SE Mid 250	4348.7	+0.5	4326.9	4326.7	4309.4	3459.8	3.41	1.73	21.17	57.34	1732.98
FT-SE Mid 250 ex Inv Trusts	4378.6	+0.5	4354.1	4353.8	4337.6	3469.7	3.52	1.75	19.93	61.04	1746.55
FT-SE-A 350	1877.2	+0.3	1871.2	1863.6	1851.6	1590.2	3.85	2.04	15.89	28.26	1557.58
FT-SE-A 350 Higher Yield	1824.2	+0.4	1816.7	1814.7	1804.9	1594.4	5.08	1.90	12.93	36.33	1265.05
FT-SE-A 350 Lower Yield	1937.7	+0.2	1933.1	1920.4	1905.7	1565.8	2.71	2.29	20.15	20.44	1332.80
FT-SE SmallCap	2098.77	+0.1	2096.30	2095.45	2081.00	1721.92	3.05	1.78	23.01	15.36	1709.43
FT-SE SmallCap ex Inv Trusts	2081.50	+0.1	2079.64	2078.94	2075.70	1699.47	3.26	1.66	20.59	15.20	1704.49
FT-SE-A ALL-SHARE	1855.90	+0.3	1850.22	1843.44	1831.96	1558.90	3.79	2.03	16.28	26.82	1563.72

■ FT-SE Actuaries All-Share

	Apr 2	Day's chge%	Apr 1	Mar 29	Mar 28	Year ago	Div. yield%	Net cover	P/E ratio	Xd adj. ytd	Total Return
10 MINERAL EXTRACTION(24)	[illegible]	....	3374.69	3401.72	3387.90	2752.38	3.86	1.74	18.62	62.80	[illegible]
12 Extractive Industries(6)	4253.73	-1.0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	13.98	100.39	1249.17
15 Oil, Integrated(3)	[illegible]	+0.1	3400.89	3438.40	3424.15	2740.01	4.06	[illegible]	15.81	62.45	1498.61
16 Oil Exploration & Prod(15)	2423.50	....	[illegible]	[illegible]	[illegible]	[illegible]	2.13	1.52	38.51	29.26	1456.28
20 GEN INDUSTRIALS(277)	2097.80	+0.2	2092.62	2084.43	2075.61	1873.39	4.01	1.66	18.61	22.99	1138.96
21 Building & Construction(34)	1136.62	+0.4	1132.21	1133.92	1124.89	970.91	[illegible]	1.96	17.83	11.77	946.35
22 Building Matls & Merchs(29)	1854.03	+0.9	1838.14	1825.25	1822.73	1751.32	4.07	1.84	16.72	8.52	924.40
23 Chemicals(25)	2534.75	-0.3	2541.16	2544.65	2549.87	2240.06	3.90	1.96	16.45	35.15	[illegible]
24 Diversified Industrials(8)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
25 Electronic & Elect Equip(36)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
26 Engineering(71)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
27 Engineering, Vehicles(13)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
28 Paper, Pckg & Printing(26)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
29 Textiles & Apparel(19)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
30 CONSUMER GOODS(93)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
32 Alcoholic Beverages(6)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
33 Food Producers(23)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
34 Household Goods(15)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
36 Health Care(20)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
37 Pharmaceuticals(12)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
38 Tobacco(1)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
40 SERVICES(263)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
41 Distributors(32)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
42 Leisure & Hotels(30)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
43 Media(46)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
44 Retailers, Food(15)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
45 Retailers, General(43)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
47 Breweries, Pubs & Rest(24)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
48 Support Services(40)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
49 Transport(21)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
60 UTILITIES(35)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
62 Electricity(16)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
64 Gas Distribution(2)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
66 Telecommunications(7)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
68 Water(13)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
69 NON-FINANCIALS(667)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
70 FINANCIALS(108)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
71 Banks, Retail(9)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
72 Banks, Merchant(6)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
73 Insurance(24)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
74 Life Assurance(6)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
77 Other Financial(23)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
79 Property(41)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
80 INVESTMENT TRUSTS(125)	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
89 FT-SE-A ALL-SHARE(801)	1855.90	+0.3	1850.22	1843.44	1831.96	1558.90	3.79	2.03	16.28	26.82	1563.72
FT-SE-A Fledgling	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FT-SE-A Fledgling ex Inv Trusts	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

■ Hourly movements

	Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.10	High/day	Low/day
FT-SE 100	3721.1	3730.9	3718.8	3718.3	3717.2	3721.0	3722.6	3726.8	3725.1	3733.0	3716.1
FT-SE Mid 250	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
FT-SE-A 350	1876.7	1877.0	1871.5	1872.2	1871.1	1873.7	1874.4	1876.1	1875.8	1877.8	1871.3

Time of FT-SE 100 Day's high: [illegible] Day's low: [illegible]. FT-SE 100 1996 High: [illegible] Low: [illegible]

■ FT-SE Actuaries 350 Industry baskets

	Open	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.10	Close	Previous	Change
Bldg & Cnstrcn	1130.6	1131.7	1131.3	1131.3	1133.1	1134.1	1134.1	1134.4	1134.4	1134.4	1139.5	+4.6
Pharmaceuticals	4846.9	4837.5	4820.3	4830.2	4832.5	4838.8	4848.8	4857.5	4829.9	[illegible]	[illegible]	+37.8
Water	2170.9	2171.3	2167.7	2165.6	2164.3	2163.9	2166.5	2167.6	2169.1	2169.1	2166.1	-1.0
Banks, Retail	4015.5	4007.6	3991.6	3983.3	3979.4	3985.0	3987.9	3991.9	3981.6	3982.7	3995.2	-12.5

Additional information on the FT-SE Actuaries Share Indices is published in Saturday issues. "The FT-SE Actuaries Share Indices are calculated by FT-SE International Limited in conjunction with the Faculty of Actuaries and the Institute of Actuaries. © FT-SE International Limited 1996. All Rights reserved. The FT-SE Actuaries Share Indices are calculated in accordance with a standard set of ground rules established by FT-SE International Limited in conjunction with the Faculty of Actuaries and the Institute of Actuaries. "FT-SE" and "Footsie" are trademarks of the London Stock Exchange and the Financial Times Limited and are used by FT-SE International Limited under licence. Auditor: The WM Company. * Sector P/E ratios greater than 80 are not shown. † Values are negative. INSERT: Henning Baker Harris (Fledgling). CHANGE OF NAME: First Spanish Inv. is now Australian Opportunities (Fledgling).

TRADING VOLUME

■ Major Stocks Yesterday

	Vol. 000s	Closing price	Day's change
3i†	462	433	[illegible]
ASDA Group†	9,800	107	[illegible]
Abbey National†	3,100	[illegible]	[illegible]
Albert Fisher	408	45	[illegible]
Allied Domecq†	3,200	497	[illegible]
Anglian Water	732	[illegible]	[illegible]
Argos†	1,200	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]

[illegible]

هكذا من الاصل

هيكتا من الاجل

WORLD STOCK MARKETS

EUROPE

AUSTRIA (Apr 2 / Sch)

BELGIUM/LUXEMBOURG (Apr 2 / Frs.)

CZECH REP (Apr 2 / Korunas)

DENMARK (Apr 2 / Kr)

FINLAND (Apr 2 / Mka)

FRANCE (Apr 2 / Frs.)

GERMANY (Apr 2 / Dm.)

GREECE (Apr 2 / Drachmae)

ITALY (Apr 2 / Lira)

NETHERLANDS (Apr 2 / Fls.)

NORWAY (Apr 2 / Kroner)

POLAND (Apr 2 / Zloty)

PORTUGAL (Apr 2 / Escudo)

SPAIN (Apr 2 / Pts.)

SWEDEN (Apr 2 / Kronor)

SWITZERLAND (Apr 2 / Frs.)

TURKEY (Apr 2 / TL Lira)

PACIFIC

JAPAN (Apr 2 / Yen)

AUSTRALIA (Apr 2 / Aus$)

HONG KONG (Apr 2 / H.K.$)

INDONESIA (Apr 2 / Rupiah)

MALAYSIA (Apr 2 / MYR)

NEW ZEALAND (Apr 2 / NZ $)

SINGAPORE (Apr 2 / S$)

SOUTH KOREA (Apr 2 / Won)

TAIWAN (Apr 2 / TW $)

THAILAND (Apr 2 / Baht)

NORTH AMERICA

CANADA

TORONTO (Apr 2 / Can $)
3:15 pm

MONTREAL (Apr 2 / Can $)
3:15 pm

AFRICA

SOUTH AFRICA (Apr 2 / Rand)

INDICES

US INDICES

	Apr 1	Mar 29	Mar 28	1996 High	1996 Low	Since compilation High	Since compilation Low
Financial	68.68	68.70	68.61	68.85 (5/3)	58.57 (10/1)	68.58 (5/3/96)	8.64 (1/10/74)
NYSE Comp.	351.04	346.92	348.29	351.70 (12/2)	321.41 (10/1)	351.70 (12/2/96)	4.46 (25/4/42)
Amex Mkt Val	572.44	571.38	568.15	572.44 (1/4)	529.05 (10/1)	572.44 (1/4/96)	29.31 (9/12/72)
NASDAQ Cmp	1106.57	1101.40	1094.84	1117.20 (23/2)	988.57 (15/1)	1117.20 (23/2/96)	54.87 (31/10/72)

RATIOS

	Mar 29	Mar 22	Mar 15	Year ago
Dow Jones Ind. Div. Yield	2.15	2.13	2.18	2.84

	Mar 27	Mar 20	Mar 13	Year ago
S & P Ind. Div. yield	1.87	1.87	1.85	2.27
S & P Ind. P/E ratio	21.21	21.28	21.01	18.05

NEW YORK ACTIVE STOCKS

Monday	Stocks traded	Close price	Change on day
Pacific Tel	11,783,400	33⅝	+6⅞
Nokia	7,803,200	34	-⅛
WMX Tech	6,251,100	33⅝	+1⅝
Actna Life	[illegible]	72	-1⅛
SBC Comms	4,851,800	48⅝	-2⅝
Exxon	4,350,700	9⅝	-⅛
Ford Motor	[illegible]	35	+⅝
WalMart	3,760,900	23⅝	+½
Gen Motors	3,831,100	5⅝	+2⅝
Mercury Fin	2,877,800	13⅝	-⅛

TRADING ACTIVITY

Volume (million)

	Apr 1	Mar 29	Mar 28
New York SE	380.287	415.832	370.727
Amex	18.292	32.014	28.82
NASDAQ	478.085	528.729	483.408

NYSE			
Issues Traded	[illegible]	3,114	3,085
Rises	1,455	1,229	1,030
Falls	900	1,222	1,250
Unchanged	743	772	815
New Highs	167	144	97
New Lows	18	25	28

S&P 500

	Open	Latest	Change	High	Low	Est. vol.	Open int.
Jun	657.60	658.00	+0.60	659.35	657.50	58,268	173,358
Sep	664.10	663.80	+0.85	664.35	663.60	350	4,617

Nikkei 225

	Open	Sett price	Change	High	Low	Est. vol.	Open int.
Jun	21620.0	21650.0	-	21720.0	21580.0	14,887	256,427
Sep	21680.0	21690.0	-	21680.0	21680.0	2	12,989

Open interest figures for previous day.

INDEX FUTURES

TOKYO - MOST ACTIVE STOCKS Tuesday, April 2, 1996

	Stocks Traded	Closing Prices	Change on day
Shinko Electric	11.8m	1040	+41
Kaisei Elect Ry	11.2m	1210	+30
Mitsui E & S Bld	11.0m	329	+2
Pacific Metals	[illegible]	771	+36
NKK Corp	7.7m	314	+1
Nippon Hsg Loan	6.8m	5	+1
Mitsubishi Hvy	[illegible]	926	+4
Toyo Aluminium	[illegible]	1230	+60
Yuasa Trading	5.1m	653	+13
Nippon Stl Corp	4.9m	371	+2

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3 15 pm April 2

NEW YORK STOCK EXCHANGE COMPOSITE PRICES

1996 High	1996 Low	Stock	Div	Yld. %	P/E	Sls 100s	High	Low	Close Quote	Ch'ge Prev. Close
22 1/8	19 1/8	AAR	0.48	2.4	22	54	20 5/8	20 3/8	20 3/8	-1/8
44 3/4	36 3/8	AMP	1.00	2.4	20	4023	42 3/8	40 7/8	41	-7/8
93 3/4	68	AMR			36	4588	90	89 1/8	89 3/8	+1/2
50 1/2	37 3/8	ASA	2.00	4.4	30	239	46 1/4	45 5/8	45 7/8	-3/8
44 3/4	38 1/8	AbbtL	0.96	2.3	19	5680	42	41 5/8	41 3/4	-1/8
17 1/4	13 3/8	Abitibi Pr	0.40	2.9	7	199	13 7/8	13 5/8	13 3/4	
33 3/8	27	ABM Ind	0.70	2.1	17	105	u33 3/8	33 1/8	33 1/4	+1/8
15 1/2	13 7/8	Acptncein			54	221	15 1/4	15 1/8	15 1/4	-1/8
50 1/2	37 1/4	ACE Ltd	0.56	1.3	10	388	45	44 1/8	44 5/8	
9 7/8	9 1/8	ACM Gvt In x	0.90	9.2	8	241	9 3/4	9 5/8	9 3/4	
7 7/8	7 1/8	ACM GvOpp x	0.66	8.9		14	7 3/8	7 1/4	7 3/8	
7 1/4	6 1/2	ACM Gvt Sp x	0.75	10.9		82	6 7/8	6 3/4	6 7/8	
9 1/8	8 1/4	ACM Gvt Se x	0.90	10.1		208	8 7/8	8 3/4	8 7/8	
9 1/2	8 7/8	ACM Mun x	0.90	9.5		113	u9 1/2	9 3/8	9 1/2	
31 3/4	17 1/4	AcmeCly	0.52	1.7	7	401	30 7/8	30 3/4	30 3/4	
9 1/4	6 1/8	Acme Elect			53	37	6 1/2	6 3/8	6 3/8	-1/8
31 3/4	27 3/4	Acordia	0.72	2.3	17	18	31 3/8	31 1/8	31 3/8	+1/8
15 7/8	12	Acuson			46	587	15	14 7/8	15	+1/8
19 1/2	16 3/8	Adams Expr	0.36	1.9	0	89	19 1/8	19	19	
21 1/4	16 1/8	AdvMic			8	9471	17 5/8	17	17 1/2	-1/8
10 3/4	8 1/2	Advest Grp	0.16	1.6	10	138	10 1/8	9 7/8	10 1/8	-1/8
26 1/2	9 1/8	Advo Inc	0.10	1.1	9	824	9 1/2	d9 1/8	9 3/8	
48 3/4	41 1/8	Aegon	1.23	2.5	15	158	u48 3/4	48 1/4	48 5/8	+1/4
5 1/8	3 1/2	Aerflx			8	43	4 3/8	4 3/8	4 3/8	
78 3/4	66 1/8	AetnaL	2.78	3.9	34	25398	73 1/8	72 1/8	72 1/8	-1/8

Continued on next page

صكذا من الاصل

3:15 pm April 2

NYSE COMPOSITE PRICES

1996 High	1996 Low	Stock	Div.	Yld. %	P/E	Sls 100s	High	Low	Close Quote	Chng Prev. Close

Continued from previous page

NASDAQ NATIONAL MARKET

3:15 pm April 2

AMEX COMPOSITE PRICES

3:15 pm April 2

AMERICA

Merger boom helps Dow to extend gain

Wall Street

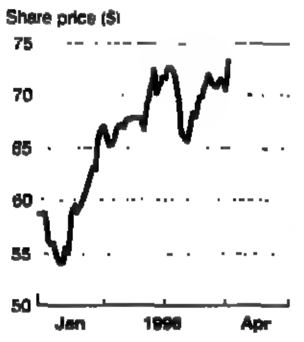
This week's batch of mergers and acquisitions continued to dominate stock market activity on Wall Street yesterday morning, while the main equity indices remained trapped in narrow ranges, *writes Richard Waters in New York.*

The Dow Jones Industrial Average of leading stocks was up 6.5 points at 5,644.22 by lunchtime, adding to the strong gain seen the day before. The broader based Standard & Poor's 500 index put on 0.06 at 653.81, while the Nasdaq composite firmed 2.27 to 1,108.84.

The latest stock to get a boost from an agreed takeover was Teledyne, the Californian high-technology manufacturer, which had unveiled a $2bn

Chase Manhattan

Share price ($)



Source: FT Extel

merger with Allegheny Ludlum, a maker of stainless steel, after the market closed on Monday.

News of the deal, which would save Teledyne from an unwanted takeover by WHX, another steel maker, prompted a $5⅜ jump in the embattled company's share price during the morning, to $33¾. Allegheny's stock slipped $1 to $18, a level which valued its all-stock offer for Teledyne at around $34⅝ a share. WHX climbed $¾ to $12½, a rise of more than 6 per cent.

The targets of the week's two other big deals continued to rise, with Pacific Telesis up $⅛ at $34¼ and US Healthcare ahead $¾ at 52⅝.

Shares of two banks which each this week completed takeovers worth more than $10bn also extended their recent gains.

Chase Manhattan, now the US's largest bank, edged forward $¼ to $72⅝, while Wells Fargo was up $1⅝ at $266⅛. Citicorp, another bank which has been very much in favour on Wall Street this year, rose a further $⅞ to $81⅞.

Among stocks in the Dow Industrial Average, General Motors, which had registered a 5 per cent leap on the first trading day of the week, eased back $¼ to $55⅞.

The vehicle maker had reported a fall in US vehicle sales for March after the market closed on Monday, caused in part by a strike that had shut down virtually all of its North American operations.

The Dow's modest gains during the morning were underpinned by AT&T, which climbed $1¼ to $63½, and IBM, which recovered some of its recent losses with a jump of $5¼ to $115¾.

Canada

Toronto continued to gain ground in late morning trade on a firm Canadian dollar and on strengthening bank issues. The TSE 300 composite index was 14.95 higher by 11 am at 5,009.22 in hefty volume of 33.7m shares.

Diamond Fields Resources, up C$¼ at C$40¼, remained at the centre of attention as the group was asked to comment on Inco's offer by the end of the day. Inco was C$⅛ higher at C$43¼, while its rival suitor, Falconbridge, C$⅛ firmer at C$28, was rumoured to have found a new partner for a counter-bid.

Telecommunications stocks were heavily traded. Northern Telecom moved forward C$1⅝ to C$66 on news that Bear Stearns had initiated coverage on the stock with a positive recommendation.

Mexico, Brazil easier

Mexico City was modestly lower in late morning trade in spite of an early rise following a cut in interest rates in the weekly *Cetes* auction on Monday night. The IPC index was off 15.46 at 3,097.81. Volume was reported as being below average ahead of the long weekend Easter holiday.

SAO PAULO was little moved by late morning even though interest rates were cut on Monday. The Bovespa index was down 178.92 at 49,914. Equities rose 1.1 per cent on Monday with turnover totalling only R$185.6m, or $188m, well below the average daily volume of some $400m.

BUENOS AIRES was also caught in a narrow trading range in slow trading. The Merval index was up 2.28 points at 516.06 by noon.

Dealers said investors were also awaiting the release of economic data due later in the week, with tax revenue figures, which so far this year have come in below expectations, scheduled to be released late yesterday.

SANTIAGO fell broadly in morning trade and the blue-chip IPSA index was off 0.3 per cent by mid-morning at 94.08. Brokers saw little chance of lower interest rates over the short term, while some thought that there was even the possibility of a rise.

Bargain hunting in S Africa

Equities fell back in a quiet session which was characterised by bargain hunting in *selected stocks.*

The overall index declined 11.8 to 6,699.0, the industrials index fell 23.4 to 8,263.7 and the gold shares index slipped 3.1 to 1,746.2.

Significant features included De Beers, 75 cents down at R122.25, SAB, 40 cents cheaper at R125.50, Richemont, up 25 *cents at R59.50, and Amic, R1* higher at R192.

Elsewhere, Southvaal finished R1 softer at R152, while Western Deep advanced R1 to *R183 and Dries relinquished* 25 cents at R62.50.

EUROPE

Paris up on undervaluation theory, rate hopes

There was plenty of corporate news in PARIS, but the broad market climbed on the perception that equities still remained undervalued in comparison with their continental European counterparts. The CAC-40 index made 14.78 to 2,070.41, another new 19-month high.

Analysts remarked that some portfolio switching had occurred recently, with some institutional investors being persuaded to move out of Germany in particular. Expectations of a further round of *French interest rate cuts* were also supporting sentiment.

Takeover speculation made its contribution, with Paribas up FFr14.10 at FFr318 on this *theme and Suez FFr8.30 higher* at FFr217 on speculation that it might sell its Indosuez unit.

Eridania Beghin-Say rose FFr11 to FFr884 as reports circulated *that Montedison, of* Italy, was about to sell its 50.5 per cent stake.

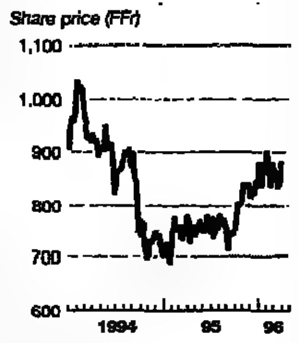
On the downside, Saint-Gobain slipped FFr5 to FFr641 on a profits warning.

STOCKHOLM was dragged down by a sharp fall in Ericsson after a television report which suggested that the telecom group's earnings would decline in the first quarter of this year.

The Affärsvärlden General index eased 4.8 to 1,875.8.

Eridania Beghin-Say

Share price (FFr)



Source: FT Extel

Ericsson B lost SKr8 to *SKr135.5 as the company* sought to dismiss the report. Turnover in the stock was a heavy SKr2.2bn, within a market total of SKr4.7bn.

Further busy trade was seen in Scania, which made its debut on Monday. The B stock was SKr1 lower at SKr182.5.

BRUSSELS was encouraged by *lower bond yields* and further basket buying which left the Bel-20 index poised to test strong resistance at the 1,700 level. The index rose 17.97 or 1.1 per cent to 1,697.20.

Retailers were among the strongest gainers, Colruyt adding BFr350 at BFr10,525. Delhaize advanced BFr34 to BFr1,356: the end of a long running price war, and a delayed reaction to a strengthening in the share price of Delhaize's US subsidiary, were said to have contributed to the rise.

FRANKFURT traded in a narrow range, extending it upwards in the afternoon as the Dow came in higher. The Dax index closed 7.36 to the good at an *Ibis*-indicated 2,508.11, turnover rising from DM6bn to DM7.2bn.

Telecoms-associated stocks moved on interest generated *by takeover activity in the US* and the UK. Viag, Veba and Mannesmann closed at DM606, up DM9, DM73.90, up 90 pfgs, and DM543.40, ahead DM6.40, *respectively. However*, brokers noted that Viag was as high as DM658 two weeks ago, before rumours began to circulate about last week's near-DM3bn rights issue.

ZURICH lacked inspiration and the SMI index fell 6.0 to 3,648.3, with investors unwilling to commit themselves ahead of the long holiday weekend.

Among the pharmaceuticals, Ciba slipped SFr4 to SFr1,475 as some analysts suggested that the SFr919m price for the sale of its Mettler Toledo precision weighing machines business was too low.

FT-SE Actuaries Share Indices

THE EUROPEAN SERIES

Apr 2 Hourly changes	Open	10.30	11.00	12.00	13.00	14.00	15.00	Close
FT-SE Eurotrack 100	1628.09	1627.81	1627.83	1628.28	1628.00	1628.48	1629.70	1630.28
FT-SE Eurotrack 200	1687.06	1687.17	1687.53	1687.61	1689.58	1689.29	1688.73	1689.81

	Apr 1	Mar 29	Mar 28	Mar 27	Mar 26
FT-SE Eurotrack 100	1626.48	1620.03	1615.40	1626.35	1616.17
FT-SE Eurotrack 200	1688.82	1679.78	1669.56	1680.39	1670.20

Base value 1000 (26/10/90); High/day: 100 - 1630.28; 200 - 1692.30 Low/day: 100 - 1627.03 200 - 1686.30 † Partial

A SFr1.25 or 5.2 per cent rise to SFr25.25 in Von Roll was attributed to a new warrant issue.

Bearers in Jelmoli, the *retailer, jumped* SFr39 to SFr797, with two Geneva based banks, which have recommendations on the stock, said to be heavy buyers.

MILAN saw a technical bounce as attention turned from politics to higher domestic bonds and the firmer lira, and the Comit index picked up *1.70 to 583.93.*

Montedison initially firmed on reports that it was to sell its stake in Eridania Beghin-Say, but the shares fell back to *finish L4.6* weaker at *L971.1* after the company declined to comment and analysts expressed scepticism.

Fiat jumped L97 to L5,067 after news, late on Monday, of higher European sales in January and February. Stet gained L54 at L4,390 on its forecast of higher 1995 net profits.

AMSTERDAM decided to take a breather after Monday's strong gain and the AEX index made a scant 0.21 to 537.49.

Some of the stocks which were in Monday's news caught the wind of profit-taking: Ahold, the supermarkets group, fell Fl 1.80 to Fl 82.30 and Heineken lost Fl 3.80 at Fl 362.40.

Océ-van der Grinten surrendered Fl 6.70 at Fl 157.10, reflecting the fact that the *stock had gained more* than 18 per cent over the previous eight trading days.

KPN went against the trend with a gain of Fl 1.10 at Fl 66.40 *ahead of today's 1995 results*, with analysts expecting profits to rise to some Fl 2.35bn from the previous year's Fl 2.03bn.

BUDAPEST ended at its *third successive record high*, helped by strong gains in a number of leading issues. The BUX index added 15.08 at 2,481.96, while turnover fell from Ft1.6bn to Ft830.7m

Foreign demand lifted Borsodchem, the chemicals company, which made Ft250 to Ft2,455, and Inter-Europa Bank, up Ft750 to a new all-time peak of Ft21,750.

ISTANBUL rallied 2.3 per cent, cheered by a successful Treasury auction of 210-day T-bills. Brokers said that lower yields and longer maturities on the *T-bills* had created positive sentiment about the state of the domestic economy. The composite index gained 1,549.89 at 68,483.57 as turnover rose to TL10,260bn from TL7,940bn.

WARSAW was easier following two sessions of rises. The Wig index shed 0.5 per cent to 11,434.8 as turnover rose by 15 per cent to 87.2m zlotys.

Espebepe, the construction group, fell 9.5 per cent in a turnover of 2.1m zlotys after *releasing* 1995 results which showed that its losses were much larger than had been previously estimated.

In contrast, Animex, a food *company, surged ahead 9.6* per cent in turnover of 8.5m zlotys after it upward revised its 1995 net profits by 12.5m zlotys to 41.5m zlotys.

Written and edited by William Cochrane, Michael Morgan and John Pitt

ASIA PACIFIC

Nikkei overcomes early slide as Bangkok jumps 2.1%

Tokyo

Profit-taking and technical selling initially depressed shares, but the Nikkei average managed to post a marginal gain *on purchases of laggards* and on speculative activity, *writes Emiko Terazono in Tokyo.*

The 225-share index finished 39.69 higher at 21,600.08 after fluctuating between 21,464.93 and 21,640.96. Large-capital steels and shipbuilders, which led the recent rally, saw profit-taking, while banks were sold on reviving uncertainty over the financial system. However, buying by arbitrageurs and foreign investors provided underlying *support*, and *individual* investors dabbled in speculative favourites.

Volume totalled 500m shares, against 641.6m. Domestic investors, who had lifted activity during the previous *few days*, remained on the sidelines as caution over the Nikkei's recent rise prevailed.

The Topix index of all first section stocks edged forward 0.27 to 1,650.02 but the Nikkei 300 softened 0.12 to 307.80. Gainers outscored losers by 573 to 472, with 180 issues ending unchanged.

In London the ISE/Nikkei 50 index eased 0.60 to 1,437.52.

The overnight rise on *Wall* Street had little impact on sentiment. Traders said the Nikkei's current level, 5.6 per cent above the 25-day moving average, had prompted technical selling. "Technical analysts regard the market as overheating when it rises over 4 per cent from the 25-day moving average," said a Japanese trader.

Non-life insurance companies, regarded as laggards, *attracted buying. Tokio Marine* and Fire rose Y30 to Y1,390 and Yasuda Fire and Marine gained Y30 at Y806.

Speculative stocks were *traded actively. Shinko Elec*tric, which makes pre-paid cards for pachinko, or Japanese pinball machines, was the most active issue of the day and appreciated Y41 to Y1,040. Keisei Electric Railway put on Y30 at Y1,210 and Pacific Metals rose Y36 to Y771.

Banks lost ground on profit-taking. Industrial Bank of Japan fell Y30 to Y2,930 and the Bank of Tokyo Mitsubishi receded Y20 to Y2,240. Taiheiyo *Bank, the regional bank which* is to be liquidated, continued to come under heavy selling. It was asked at Y130, down from Y210 on Monday.

In Osaka, the OSE average shed 21.11 to 22,733.34 in volume of 54.8m shares.

Roundup

Sustained buying by foreign investors took **BANGKOK** 2.1 per cent higher, the SET index *rising 27.33 to 1,320.86 in turn*over of Bt7.6bn.

Dealers said that the index rose sharply in the afternoon after foreign investors, mainly from Europe, bought finance and bank stocks.

Finance shares were perceived as attractive, brokers said, because they were seen as cheap and because they were expected to report good first-quarter earnings.

Bangkok Bank topped the active list, adding Bt2 at Bt234, while Thai Farmers Bank gained Bt4 at Bt195.

HONG KONG chalked up a 2 per cent gain, taking its lead from Wall Street and, dealers said, with the momentum maintained by an apparent short squeeze on futures in the afternoon.

Property shares and banks led the gains. Sun Hung Kai Properties climbed HK$2.50 to HK$73, Cheung Kong HK$1.50 to HK$56.25 and Henderson Land HK$1 to HK$54.75.

HSBC forged ahead HK$2 to HK$118.50 and its Hang Seng Bank subsidiary closed HK$1 *stronger at HK$78.*

TAIPEI rallied on strong post-election momentum, overcoming a significant resistance level.

The weighted index, which had been rising since the presidential election at the end of last month, added 48.26 or 1 per cent at 5,175.76. Turnover came to T$39.3bn.

Textiles and electronics led the rise, gaining 1.5 per cent and 1.3 per cent respectively.

Sanfu Motors soared by the daily 7 per cent limit, ending 55 cents up at T$8.45 after reports that the group planned to invest $300m in a Burmese car plant.

KUALA LUMPUR saw heavy selling of second board stocks as investors reacted nervously to a move by the exchange authorities to impose trading restrictions on speculative second-liners.

The second board index, which had risen by more than 100 per cent from its low earlier in the year, closed 17.14 or 3.5 per cent off at 468.64.

The composite index, which *tracks blue chips, fared better,* losing 5.22 points at 1,153.22.

Super Enterprise finished M$9.65 or 34 per cent down at M$18.60 after the KLSE imposed trading restrictions on the stock, which had risen sharply in recent months.

SINGAPORE was enlivened by some activity in Malaysian *over the counter stocks as* moves by the Malaysian authorities to clamp down on speculative activity in second board shares prompted expectations that demand could switch to Singapore.

The Straits Times Industrial index declined 10.22 to 2,365.81, while the UOB-OTC index ended 2.23 up at 1,160.52.

SEOUL reversed an early fall as institutional investors purchased shares actively towards *the close to keep their self*-imposed rule of buying more than they sold. The composite index closed 6.00 up at 884.47.

MANILA saw selected buying which took the composite index forward 20.31 to 2,939.33. Brokers observed that most of the interest was concentrated on second line stocks *which had shown good earn*ings prospects.

WELLINGTON continued to notice weakness in Telecom, down 7 cents at NZ$6.45, a factor which helped to bring the NZSE-40 capital index down 5.37 to 2,128.23.

Some smaller stocks benefited from market attention: Waste Management rose 15 cents to NZ$11.05 and Fisher and Paykel was up 8 cents at NZ$1.69.

SYDNEY was motivated late in the day following a rally in the futures market. The All Ordinaries index put on 6.6 at 2,236.9.

Foster's gained 5 cents at A$2.33 with about 2.5m shares traded as speculation mounted that Heineken, of the Netherlands, might launch a bid. *Rumours suggested that Hein*eken might acquire BHP's 38 per cent stake in Foster's, and the resources group's shares firmed 7 cents to A$18.35.

SHANGHAI's hard currency B share index fell 1.9 per cent, with investors cashing in existing holdings to buy two new issues. The index lost 0.956 at 40.680.

BOMBAY rose 1.3 per cent as foreign institutional buying propelled blue chips to a strong *finish after Monday's holiday.* The BSE-30 index was finally 43.08 higher at 3,409.69.

FT/S&P ACTUARIES WORLD INDICES

The FT-S&P Actuaries World Indices are owned by FT-SE International Limited, Goldman, Sachs & Co. and Standard & Poor's. The indices are compiled by FT-SE International and Goldman Sachs in conjunction with the Faculty of Actuaries and the Institute of Actuaries. NatWest Securities Ltd. was a co-founder of the indices.

NATIONAL AND REGIONAL MARKETS	MONDAY APRIL 1 1996								FRIDAY MARCH 29 1996					DOLLAR INDEX		
Figures in parentheses show number of lines of stock	US Dollar Index	Day's Change %	Pound Sterling Index	Yen Index	DM Index	Local Currency Index	Local % chg on day	Gross Div Yield	US Dollar Index	Pound Sterling Index	Yen Index	DM Index	Local Currency Index	52 week High	52 week Low	Year ago (approx)
Australia (81)	200.86	0.7	195.23	136.52	154.86	169.90	0.2	4.09	199.45	193.71	134.65	153.09	169.57	202.74	160.01	161.62
Austria (24)	182.63	0.0	177.51	124.13	140.82	140.66	0.5	1.54	182.58	177.33	123.26	140.14	139.96	199.28	168.11	185.75
Belgium (34)	208.12	1.6	202.29	141.45	160.48	156.44	2.0	4.12	204.91	199.01	138.33	157.28	153.31	215.81	182.59	182.59
Brazil (26)	155.70	1.2	151.34	105.83	120.06	283.07	1.2	1.55	153.90	149.48	103.90	118.13	279.81	170.25	108.08	111.80
Canada (101)	158.22	1.1	153.79	107.54	122.00	155.26	0.6	2.42	156.44	151.94	105.61	120.08	154.35	158.71	132.37	134.04
Denmark (30)	297.71	0.3	289.37	202.35	229.56	231.77	0.8	1.92	296.74	288.20	200.33	227.76	229.99	305.17	250.18	260.38
Finland (24)	180.11	-0.4	175.07	122.42	138.88	174.97	-0.5	2.82	180.90	175.70	122.13	138.85	175.93	276.11	171.73	178.42
France (98)	195.02	0.2	189.56	132.55	150.38	154.48	0.5	3.01	194.59	188.99	131.36	149.36	153.69	195.02	167.70	181.66
Germany (60)	172.65	-0.2	167.81	117.35	133.13	133.13	0.2	1.96	173.06	168.08	116.83	132.83	132.83	174.38	145.74	145.74
Hong Kong (59)	429.97	-0.5	417.92	292.24	331.55	426.95	-0.5	3.30	432.18	419.75	291.78	331.72	429.07	451.19	323.87	347.07
Ireland (16)	266.29	0.3	258.83	180.99	205.34	238.56	0.5	3.40	265.40	257.77	179.17	203.71	237.39	266.29	215.28	217.94
Italy (59)	71.97	-0.3	69.96	48.92	55.50	84.34	-0.3	2.15	72.17	70.10	48.72	55.40	84.61	82.71	67.09	68.85
Japan (481)	154.57	0.0	150.24	105.06	119.19	105.06	0.7	0.72	154.61	150.16	104.37	118.67	104.37	164.82	137.75	160.27
Malaysia (107)	553.01	-0.1	537.51	375.87	426.42	539.08	0.1	1.61	553.30	537.38	373.53	424.69	538.81	561.98	425.77	487.75
Mexico (18)	1221.30	1.8	1187.16	830.15	941.80	10042.21	1.6	1.39	1199.32	1164.83	809.66	920.55	9887.67	1237.14	791.99	854.72
Netherland (19)	287.68	0.2	279.62	195.53	221.83	217.89	0.6	3.22	287.17	278.91	193.87	220.42	216.59	287.68	236.05	238.80
New Zealand (15)	82.65	-0.9	80.33	56.17	63.73	63.92	-1.7	4.31	83.44	81.04	56.33	64.05	65.05	85.49	75.69	75.69
Norway (33)	236.19	-0.1	229.57	160.53	182.12	206.57	0.3	2.41	236.50	229.70	159.66	181.55	205.86	243.79	209.88	209.88
Singapore (44)	435.51	-1.2	423.31	296.01	335.82	282.32	-1.3	1.42	440.83	428.16	297.60	338.36	285.93	465.21	355.81	363.66
South Africa (45)	380.74	-1.5	370.07	258.78	293.59	333.06	-0.9	2.53	386.46	375.34	260.90	296.63	336.04	437.78	338.91	340.17
Spain (37)	171.29	-0.3	166.49	116.42	132.08	161.78	0.1	3.39	171.81	166.87	115.99	131.88	161.55	175.66	129.50	130.04
Sweden (46)	340.73	-0.8	331.19	231.59	262.74	336.01	-1.2	2.47	343.64	333.76	231.99	263.76	340.01	352.28	234.03	234.03
Switzerland (39)	249.81	-0.2	242.81	169.79	192.63	185.15	0.2	1.54	250.26	243.06	168.95	192.09	184.89	252.34	191.68	183.53
Thailand (46)	179.37	0.3	174.34	121.91	138.31	175.85	0.4	1.98	178.85	173.70	120.74	137.28	175.13	193.85	134.53	141.48
United Kingdom (205)	229.81	0.4	223.37	156.19	177.20	223.37	0.5	4.09	228.82	222.34	154.54	175.71	222.34	235.50	205.93	207.16
USA (631)	266.80	1.2	259.32	181.34	205.72	266.80	1.2	2.17	263.53	255.95	177.91	202.28	263.53	269.11	204.49	204.49
Americas (778)	243.51	1.2	236.69	165.51	187.77	204.63	1.2	2.16	240.53	233.61	162.38	184.62	202.16	245.54	187.12	187.12
Europe (724)	207.34	0.1	201.53	140.93	159.88	179.86	0.3	3.05	207.12	201.17	139.83	158.98	179.19	207.34	177.76	178.36
Nordic (133)	291.18	-0.5	283.02	197.91	224.52	251.33	-0.6	2.42	292.72	284.31	197.62	224.68	252.90	297.48	226.06	226.06
Pacific Basin (833)	167.63	-0.1	162.94	113.94	129.26	116.47	0.5	1.16	167.72	162.89	113.22	128.73	115.92	171.87	148.86	160.22
Euro-Pacific (1557)	184.07	0.0	178.92	125.11	141.94	140.52	0.4	2.05	184.03	178.74	124.24	141.25	139.85	184.07	163.92	167.68
North America (732)	260.09	1.2	252.79	176.77	200.55	259.33	1.2	2.18	256.91	249.52	173.44	197.18	256.22	262.26	200.12	200.12
Europe Ex. UK (519)	189.88	-0.1	184.56	129.06	146.42	154.40	0.3	2.45	189.97	184.51	128.25	145.81	153.98	189.97	156.83	159.12
Pacific Ex. Japan (352)	288.96	-0.2	280.88	196.41	222.83	250.30	-0.3	2.97	289.44	281.11	195.40	222.16	251.04	293.58	235.64	239.02
World Ex. US (1749)	185.35	0.0	180.15	125.98	142.92	144.72	0.4	2.06	185.27	179.94	125.08	142.21	144.15	185.35	164.41	167.97
World Ex. UK (2175)	208.47	0.6	202.63	141.69	160.75	175.42	0.8	1.91	207.30	201.34	139.95	159.12	174.06	208.47	173.77	176.13
World Ex. Japan (1899)	241.40	0.7	234.63	164.07	186.14	227.58	0.8	2.52	239.67	232.78	161.80	183.96	225.81	242.17	194.54	194.76
The World Index (2380)	210.42	0.6	204.52	143.02	162.25	179.87	0.8	2.10	209.27	203.25	141.28	160.63	178.52	210.42	176.58	176.85

CONSTITUENT CHANGES WITH EFFECT 3/4/96: Deletions: Chemical Banking and First Interstate Bancorp (both USA). Latest prices were unavailable for this edition.

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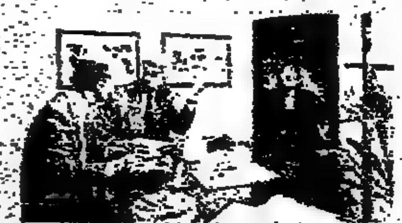
FINANCIAL TIMES REVIEW



Information Technology

Wednesday April 3 1996

First the Internet: now the Intranet phenomenon

Intranets allow companies to streamline their internal communications and productivity. Now the race is on among IT suppliers to catch up with an unstoppable market, reports Paul Taylor

While the Internet has been grabbing most of the headlines in IT over the past 18 months, a quiet revolution has been taking place inside companies. Private Intranets – internal Internets shielded from prying eyes by 'firewall' security software – are blossoming.

"This other side of the Internet is about to explode," said the Gartner Group in a report published late last year. The research group expects more than 50 per cent of large companies to have not just Intranets, but business-critical "enterprise-wide webs" by 1998.

Intranets take advantage of the open protocols, standards and the familiar Web browser software of the public Internet to provide employees, close customers and suppliers with easy access to corporate information and processes. They enable people to find information easily, work together and share the results of their work. At the same time, employees can venture out on to the Net, but unauthorised users cannot get in.

After experimenting with public World Wide Web sites that promote products and services, companies are seizing on Web tools and software as a swift way to streamline their organisations and improve internal communications.

Already, Netscape, the Internet software supplier, reports that most of its Web server software sales to companies are for internal rather than external use. On the hardware front, Compaq Computer recently announced that all its computer servers will be sold with Web software already installed.

Meanwhile, California-based Zona Research, predicts that sales of software to run Intranet servers will jump to more than $4bn next year, up from just $476m last year. By 1998, Zona predicts, the figure will hit $8bn, four times the size of the Internet server business – and that excludes all the applications software packages and programming tools that are needed to create Intranets.

The Intranet phenomenon, like its public network counterpart, has sent companies such as Computer Associates, IBM, Microsoft, Oracle, Netscape and Sun Microsystems scrambling to rush out Intranet software products.

For example, after initially underestimating the impact of the Internet on corporate IT, Microsoft, the world's leading software developer, is racing to catch up. The company's domination of the packaged personal computer operating system and applications market inside companies with products such as Microsoft Back Office makes it particularly vulnerable to any shifts in sentiment.

Recognising this, Microsoft is in the midst of an aggressive catch-up exercise designed to ensure that its corporate products, such as Microsoft Office and Back Office, are not just Internet-aware, but remain at the core of enterprise wide-networking.

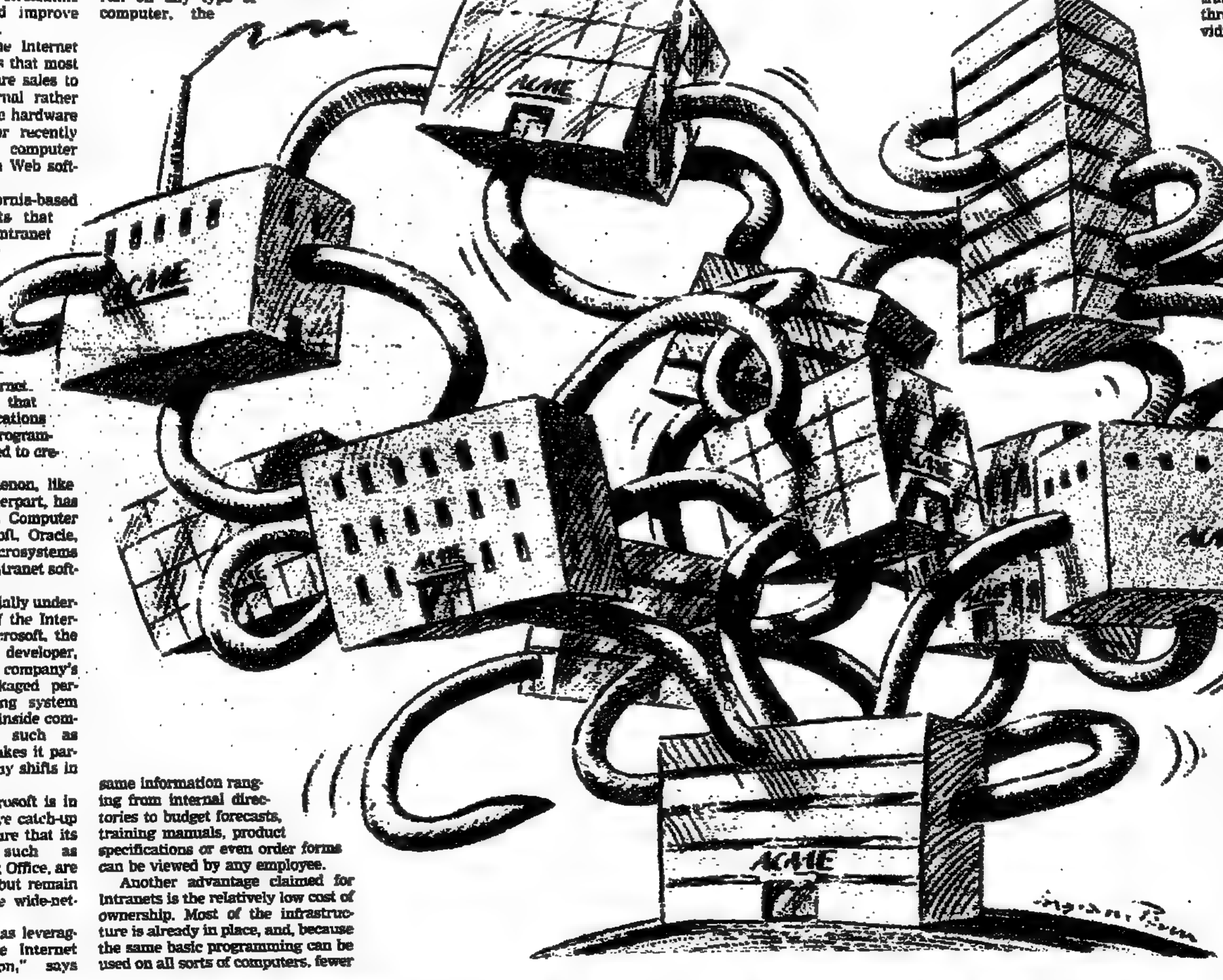
"We see the Intranet as leveraging the benefits of the Internet within an organisation," says Richard Fade, Microsoft's senior vice president in charge of desktop applications. "We think it is important to be able to do things with the existing infrastructure."

Meanwhile, Microsoft has caused ripples in the Web-server software market by giving away its Internet Information Server programme and its browser on the Net.

"Intranets are the most important new computing platform since business computers were introduced into the business environment," says Microsoft, in a discussion paper. "Intranets are about corporate workforce connectivity. They connect people to people and people to information."

Fundamentally, private Intranets are being embraced by companies because they bring immediate gains in terms of helping people to find information, work together and distribute their results effectively – "those gains translate into higher productivity, lower costs, and increased competitiveness," says Microsoft.

Advocates for the Intranet claim it reduces the need for paper and provides cut-price global access to corporate information, "dissolving all departmental and geographic boundaries". Because Web browsers run on any type of computer, the same information ranging from internal directories to budget forecasts, training manuals, product specifications or even order forms can be viewed by any employee.



Another advantage claimed for Intranets is the relatively low cost of ownership. Most of the infrastructure is already in place, and, because the same basic programming can be used on all sorts of computers, fewer programmers are required to write and maintain software.

Even more importantly, because they present information in the same way to every computer, they are able to consolidate the patchwork of incompatible computer systems, software, and databases which most companies have to live with, into a single system that enables employees to find information wherever it resides.

They also allow employees to work in collaboration on projects. For example, engineers at Ford Motor used the car manufacturer's Intranet, linking design centres in the US, Europe and Asia, to help design the 1996 Taurus. Similarly, consultants working for EDS, the computer services group, use EDS Web to collaborate on customer projects. "We are trying to use the Intranet as one of the ways to improve productivity," says Todd Carlson, EDS' chief information officer.

From engineers to office workers, employees are creating their own Web home pages and sharing details of their projects and even their diaries with the rest of the company. For example, Federal Express, which is saving an estimated $2m a year by encouraging customers to track the progress of their packages through a public Web site, is providing its 30,000 worldwide office workers with Web browsers so they can view the 50-plus Web sites running inside the company, most created by and on behalf of employees.

In a recent report, Forrester Research described America's Fortune 1,000 companies as "breathless over the Intranet". Forrester found that 16 per cent of a group of 50 large US companies it studied already had an Intranet in place and 50 percent were either planning or considering building one. "The Intranet is unstoppable," concluded Forrester, "it has an unprecedented speed and forward momentum."

The widespread adoption of open Intranet technology does, however, pose a serious threat to a large group of companies whose software products are based either entirely or partly on proprietary technology. Among them is Lotus Development whose Lotus Notes 'workgroup' software provides a powerful tool for helping employees collaborate and whose CC Mail electronic mail package is challenged by open Internet e-mail.

Lotus, acquired by International Business Machines last year, has acknowledged the threat. Although its Notes software still beats the Web at functions such as database replication, content organisation and workflow applications it is, nevertheless, moving quickly to support the HTTP 'language' of the Net and adapt Notes to other Internet standards.

Meanwhile, Netscape is itself moving to broaden the range of products it can offer its corporate customers. In September, it bought Collabra which produces groupware software with some of the features of Lotus Notes.

Other companies, such as Novell, the local area networking leader, and Germany's SAP group, whose R/3 software helps bind disparate corporate functions together, also face a challenge from the Intranet.

Concerns about the robustness of firewall security could eventually limit the penetration of Intranets, although most companies in the US appear to be sufficiently confident in security to make all but their most sensitive information available internally.

In the longer term, the big winners are likely to be those software companies, including security specialists, who manage to ride the Intranet wave. Companies such as Oracle, Sybase and Informix which supply the bulk of the big and powerful database systems used by most companies should also do well.

Sybase is already testing a program called Web. SQL, which links Web servers with its own and other vendors' databases, and Oracle has developed a product called Oracle Mobile Agents which is designed to provide mobile employees with secure access to corporate Intranets from any location using fixed wire, dial-up or wireless connections.

The Intranet could also help breathe life into Oracle's vision for the Network Computer – low-cost devices designed to provide access to information and programmes stored on the network. The first network devices, built to a specification drawn up by Acorn Computer on behalf of Oracle, are expected to appear in the next few months.

■ **Robert Palmer of Digital Equipment** – interview by Paul Taylor

Alpha the leader in the 64-bit revolution

The instigator of a remarkable turnaround in fortunes sees positive benefits for the arts, education, and science from recent advances in computer power

Just a few years ago when it was haemorrhaging cash, Digital Equipment, the second largest computer group in the world after International Business Machines, was being written off by many in the IT industry as another high-tech disaster.

Following its early success with proprietary Vax minicomputers, Digital's failure to adapt to the new world of open systems and PC-centric computing in the late 1980s brought the company to the brink of bankruptcy.

But, under Robert Palmer, who became president and chief executive of the Maynard, Massachusetts-based group in October 1992 and was elected chairman in May last year, Digital has staged a remarkable turnaround.

"When the paradigm shifts like it clearly did from vertically integrated computer companies to open systems and PC economics, the longer you postpone recognising and dealing with that reality, the more painful it is," says Palmer, an *accomplished electronics engineer* in his own right.

"It was very painful for Digital but we have got that behind us now," he says. In its fiscal 1995 year ending July 1, the group posted its first profit since 1990, turning a $519m loss the previous year into a profit of $122m in 1995. Revenues grew by $390m to $13.8m, even though the group's employee numbers have dropped to 61,500, less than half the peak level.

Earlier this year, the company confirmed its return to financial health by reporting its sixth successive profitable quarter and strong profit growth, helped by demand for its high-performance Alpha systems. These have garnered in more than $7bn in revenues since their launch in 1992 and have become established as the leading 64-bit architecture.

Before joining Digital in 1985 and becoming vice president of the semiconductor operations the following year, Palmer, a native Texan with a degree in mathematics and a post graduate masters in physics, had in 1969 co-founded Mostek, the pioneering US semiconductor group, now part of United Technologies.

The computer industry has over the past few year, he says, gone through a difficult transi*tion from an environment* characterised by vertically integrated companies that essentially designed all elements of the computing solution internally, to a disaggregated environment typified by horizontal competitors. This *has resulted in more choices,* more efficiencies, increased opportunities and challenges for both customers and suppliers.

"No one company provides excellence across all the segments, although some compa*nies have competencies in sev*eral of them," he told analysts last autumn.

Most companies recognise that the vertically integrated model is not the most efficient for a successful systems company.

Palmer: 'Alpha is a key strategic investment area for Digital'

"This trend will continue because it offers customers more choices, more flexibility and the opportunity for increased efficiencies in their operations."

Nevertheless, Palmer acknowledges an enormous increase in complexity. "Many enterprises today are trying very hard to do business anywhere, anytime, using an interconnected workforce deployed throughout the world.

In order to realise the benefits of internetworked commerce, he argues that companies have a greater need than ever before to develop the capability to integrate or buy an integrated system that will connect users to other users within the enterprise; connect all users to vital data and information; and connect to supplier, partners and customers.

For many organisations client/server computing is the first concrete step for moving towards this kind of connectivity. "But consider an example of how client/server really plays out today," he says.

"You've got 30 years of data on a mainframe or minicomputer, on MVS or VMS, in the glass house . . . and you are trying to implement SAP R/3 throughout the organisation, but it is available only on Unix . . . and nearly every department has a Windows-based desktop . . . and you've got three differed wide-area networks linking dozens of Lans.

"This represents a typical large customer set-up in today's real world. Variations on this theme are seen in large, mid-sized and small businesses. In each case, the problem is the same: computing environments that don't communicate effectively – or maybe not at all. We call this the client/server chasm, or the connectivity chasm."

"What customers want is a black box, metaphorically speaking, that allows them to integrate all of the enterprise resources; makes all of those resources available to any desktop as desktop objects in the user's preferred graphical interface; and makes the whole implementation robust, dynamic, flexible, transparent and secure – while at the same time protecting existing IT investments."

In addition to internal connectivity, customers also want and expect "to be able to connect outside their enterprises, to suppliers, prospects, their customers and so on with the same flexibility, transparency and security. This all represents quite a challenge for the information technology industry. For Digital, Palmer says, "it represents an enormous opportunity".

He says Digital will address this opportunity through a three pronged strategy. Firstly, it will choose four market segments – components, system platforms, connectivity software and client/server services – in which to compete.

Secondly, it will focus Digital's systems integration capability on large customers in targeted industries, so as to address the increasing complexity inherent in a segmented marketplace.

Thirdly, and most crucially, resources will be committed to solving the black box connectivity problem. By the end of the decade Digital estimates that 95 per cent of its customers will be using three systems – Unix, Windows NT and proprietary systems as they integrate their businesses.

Palmer sees Digital's much heralded alliance with Microsoft covering Windows NT, together with its Alpha technology, as being *crucial to this* strategy.

He firmly rejects suggestions from some market analysts that Alpha is an expensive diversion.

"Alpha is a key strategic investment area for Digital," he says. It has given the group a technological lead in the increasingly competitive world of high performance computing, and "a truly competitive differentiation – the ability to complement our Intel platform offerings, enabling us to offer customers an unequalled line of scaleable systems with Intel or Alpha processors, from notebooks to clustered, SMP mainframe-sized servers.

"Alpha allows us to be competitive at the high end and in the mid-range, and *in a way* that significantly differentiates us from our competitors. We have paid for EV5 (the Alpha manufacturing facility which cost $425m), whereas most competitors have yet to provide their 64-bit systems."

Palmer sees the move to 64-bit computing as inevitable. "High performance computing is a requirement in a growing array of business applications from interactive video servers to systems for technical computing *and simulations,*" he says

The demand for 64-bit computing power is being driven by power-hungry applications such as multimedia, visualisation, simulation and modelling, 64-bit database software, decision support, data warehouse and OLTP applications, Internet and interactive video-servers.

"It is not just that we are seeing traditional business operations being done faster and more efficiently, although we are. We are also seeing the possibility of entirely new capabilities, like cost-effective video-on-demand and cellular fraud detection - possibilities enabled by Alpha technology." More generally Palmer believes the trends under way in the IT industry such as the convergence of communications and computing and the increased availability of affordable communications bandwith as creating incredible opportunities.

The opportunities, he believes, "are very positive for society, are going to bring results in education, in the arts and *in the sciences. We are* extremely fortunate to be part of an industry that has an extraordinary opportunity to contribute to the wellbeing and future properity of the world - and also be able to make a business of it."

■ **Profile: Ed McCracken**

A profitable passion for innovation

Innovation is the driver which makes Silicon Graphics one of the fastest-growing and most profitable computer companies in the world. Ed McCracken, the chairman and chief executive, is interviewed here by **Rod Newing**

By the year 2007, says Ed McCracken, "we expect to see a 10,000 times change in the price/performance of computers".

The current Cray supercomputer performance will be available on a $10,000 system by then, he says – "when performance changes by a factor of a only a hundred, it changes the entire paradigm of the architecture and applications. At Silicon Graphics we make sure that we understand the new paradigms first".

Silicon Graphics' strategy is to innovate at the high end and have clear leadership position: "This gives us access to the best and brightest thinkers in the best companies," he says. "We can listen and learn and invent new technologies. We exploit them in the first three to five years, when marketing opportunities can be realised. We add value to our customers' business which allows us to be very profitable."

After five years, new technology becomes a commodity and Silicon Graphics are less interested. The company uses technological innovation to bring down the manufacturing cost of new technology, so that it can be passed down the range to a desktop machine. At the same time, the rest of the industry is trying to move up the power curve. McCracken believes that the two strategies will compete, but that Silicon Graphics' leadership at the high end will sustain them.

Silicon Graphics also believes that a computer should function as a window into a three-dimensional world, where people can work with an object, a concept or a business process in a natural and intuitive way to achieve greater and faster insights into complex problems. The company calls this "visual computing".

The original vision in the US grew out of a cold war Defense Department project at Stanford University which developed the idea of building graphics into silicon chips. The idea current at the time was that a computer should look like a desktop, hence the Macintosh. However, the team wanted to view the world in a three dimensional space, which they thought would become a new computing paradigm. A venture capitalist read an article about this vision in a local newspaper and offered $500,000 to develop it.

Silicon Graphics believes that there will be a strong demand for their type of powerful computers because of the move from text and numbers to pictures, three-dimensional graphics, audio and video.

"With these, the demand for performance goes up by 100 to 1,000 per cent," he says."A passion for innovation is important to success . . . all the hardware we are selling today has been invented in the last two years and sold into markets which didn't exist a year ago. To achieve this level of innovation we put our best technologists next to our best customers and top universities. They can come up with new paradigms which are not linear projections of current concepts, but provide a non-linear breakthrough."

Silicon Graphics has a vision of 2007, but they do not take it so seriously because the market is moving at chaotic speed – "we need a passion for speed as well as innovation, because there is no long-term competitive advantage in the IT industry," he admits. "Staying 'current' is not enough. You must be at the leading edge of technology. We need to get products out early in the window of market opportunity if we are to beat Microsoft and Intel."

The company invests 11 to 13 per cent of revenue in research and development, compared with an industry average of about 6 per cent. "Those companies which rely on Intel and Microsoft for their innovation only spend 2-3 per cent," he says. "We don't have big departments of thinkers. We do what we call 'just in time research'. When we understand a problem, we develop and implement a solution as quickly a possible."

Silicon Graphics started with no concept of multimedia, but in the late 1980s it incorporated digital multimedia in to its systems. It was also one of the first companies to move to symmetrical multi-processing as a way to bring more power to graphics. This brought the company into the supercomputer market, where it achieved success by concentrating on scaleable systems. Companies were unable to predict the performance they needed, so more processors could be added.

"This allowed us to buy Cray Research for a good price," says Mr McCracken. "They have some good customer and government relationships and great technology, but most of all, they have a good brand name. Cray means more the further you move from Wall Street! I've talked to hundreds of Cray customers and their name has a good cachet."

"Cray" will be a brand name for the merged companies' most powerful systems. Cray Research had to have a range from the most expensive systems to a desktop, but now the Cray team can focus their resources at the top end with a more specific market sector.

They will not need to worry about the lower end of the market, which the Silicon Graphics' team will exploit. The combined company will supply a full range of systems from a $5,000 Silicon Graphics workstation to a $20m Cray supercomputer.

"In five years, people will still be able to say 'I just bought a Cray' and it will *mean* something – the fastest supercomputers in the world," he says. "Our key objective is to work hard to provide tools to make software easy to transfer between Silicon Graphics and Cray systems."

Mr McCracken admits, however, that this will require a good deal of investment in research and- development. Silicon Graphics already has working relationships with Cray because the companies have common customers.

Silicon Graphics have been described as "the eyes of Cray" because its systems have been used as a front-end to Cray supercomputers. Most importantly, there is respect between the two engineering teams.

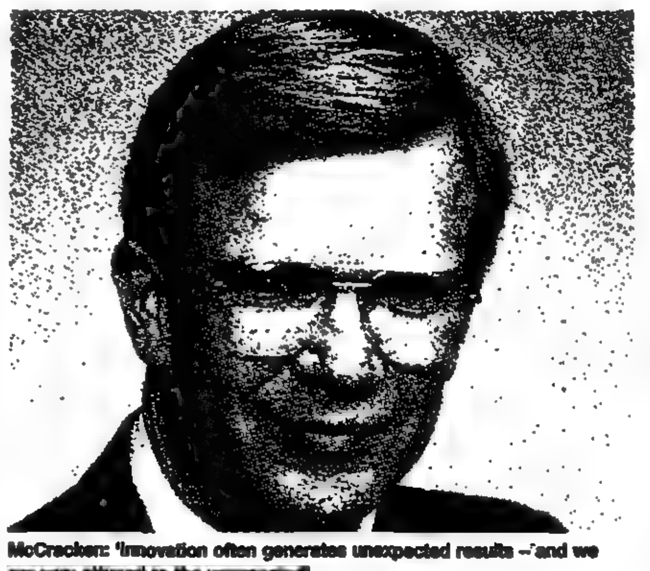
Innovation at Silicon Graphics is not aimed just at the business market. Chips designed by SG are used in the Sony Playstation and the next generation Nintendo 64. Silicon Graphics is also working with Time Warner cable in Orlando, Florida to provide the world's most interactive cable TV system.

"Innovation often generates unexpected results and we are very attuned to the unexpected," says Mr McCracken.

Web servers now use the Orlando Time Warner technology for multimedia. When a server has more than 100,000 "hits" a day or if there is real time connection to a database, then Silicon Graphics technol*ogy is needed to provide the* necessary performance.

The Time Warner technology is also used by many broadcast and movie studios who want an electronic library for digital art and video, including Steven Spielberg's new Dreamworks studio. Multimedia databases are Silicon Graphics' fastest-growing market.

"The market for innovative *thinkers trying to gain compet*itive advantage is growing very rapidly," concludes McCracken. "Our company uses human talent to innovate quickly to meet this demand. It allows us to be the fastest growing and most profitable computer company in the industry."



McCracken: 'Innovation often generates unexpected results –'and we are very attuned to the unexpected'

The company that created Jurassic Park's dinosaurs

Silicon Graphics is the world's leading manufacturer of high performance visual computing workstations, servers and supercomputing systems.

The company was founded in 1982 in Mountain View, California, by James Clark, a professor at Stanford University to pioneer the three dimensional visual computing capabilities he had developed. Silicon Graphics now offers a full range of systems from desktop workstations to servers to super computers, all of which can run the same software applications.

Silicon Graphics has been growing at 45 per cent each year and recently announced an agreed merger with Cray Research, the world leader in large-scale supercomputing. These advanced systems are capable of calculating thousands of millions of arithmetic calculations per second.

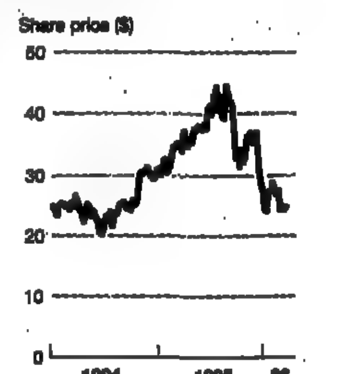
The combined companies will have a turnover of $4bn.

Silicon Graphics achieved widespread fame when its systems were used to create the animated dinosaurs in Steven Spielberg's film, *Jurassic Park*.

Ed McCracken joined Silicon Graphics as chief executive in 1984 after 16 years with Hewlett Packard. He is co-chairman of President Clinton's National Infrastructure Advisory Council, which advises the US administration on a national strategy to accelerate development of the information superhighway.

Last year he received the National Medal of Technology from President Clinton.

Silicon Graphics



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FT Review of Information Technology

Commissioning editor: Michael Wiltshire

Writers in this issue (volume two, number three) include: Paul Taylor, IT Correspondent: Louise Kehoe, Nuala Moran, Tom Foremski, Rod Newing, Philip Manchester, Michael Dempsey, John Kavanagh, Geoffrey Nairn, Jola Shillingford, Geoffrey Wheelwright, George Black, Martin Dickson, Laura Tyson

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IT Directions: Computer-telephony integration.
Software: Voice recognition and translation.

The June 5 issue
Main focus: IT in sport and the Olympics.
Plus: focus on IT in manufacturing.
IT directions: business strategies for the network-centric computing era. (See also page six of this issue for details of a London symposium on June 7, on the theme).
IT directions: ATM technology and fast switching.
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■ **Pressures on IT entrepreneurs:** profile by Martin Dickson

The maturing of Michael Dell

A shift in company culture is being translated into renewed growth in sales and strong cash flow

In corporate as in personal life, adversity can be very character-forming. Four years ago, when Dell Computer was being hailed as one of America's fastest-growing companies, a brash, anything-is-possible self-confidence pervaded its Texas headquarters. Then came a brush with near-disaster which made the company confront its own shortcomings.

It shook itself up, regained its poise and is now one of the world's most successful personal computer manufacturers – but with a new maturity, and a much greater respect for management planning and financial discipline.

Nowhere is the change more evident than in the person of Michael Dell, its whizzkid chairman, who began the business in his college room in the early 1980s and is still only 31 years old.

Rather than pursuing headlong growth for its own sake, Dell now peppers his business presentations with a new slogan, smacking of financial caution: the company's goal, he says, is "to balance liquidity, profitability and growth."

The company's difficult patch highlights a common, and potentially fatal, managerial problem: the entrepreneurial business which finds its executives and systems cannot keep up with its rapid expansion.

Dell grew remarkably fast because it spotted an unexploited gap in the computer market: selling PCs directly to the customer by phone, cutting out the middleman, and backing this up with a strong after-sales service. Its sales rose from $546m in the 1991 financial year to $2bn in the 12 months to January 1993.

But then came a a string of problems. It had to cancel a proposed new range of notebook computers when it realised the products were not competitive; its chief financial officer resigned; and it got into a spat with a Wall Street analyst over its accounting practices. Its share price plummeted.

With the benefit of hindsight, Michael Dell pinpoints three big weaknesses. First – and ironically for an information technology business – the company lacked adequate information systems.

"We didn't have a good understanding of the segment profitability of the business,

Continued on page four

Michael Dell, 31, places "a much higher priority on planning . . . and in the way we're running the business, and in balanced results"

■ Battle for the desktop

Dynamic forces at work

While user-companies are increasingly concerned about network management and the cost of running IT systems, hard-pressed suppliers in the personal computer market are discovering that success often has more to do with marketing, distribution and sheer size, than with technological innovation and prowess, reports Paul Taylor

First the standalone personal computer, and now the networked desktop PC has helped transform corporate data processing and reshaped business computing and communications in recent years. Now, as the millenium approaches, the desktop PC industry is being moulded by new and dynamic forces.

"Over the last decade, the PC has evolved from a standalone personal productivity device into a widely connected information tool, and is becoming the centre of business communications," notes Intel, the US semiconductor group whose microprocessors power more than 80 per cent of desktop machines.

"PCs are already used to send faxes and e-mail, to share databases and automate workflow, even to hold long-distance meetings through videoconferencing. The resulting boon to productivity is spurring strong demand for further PC/communications applications."

The PC has become "a strategic, as opposed to a productivity tool", says Andreas Barth, Compaq's European senior vice president.

Last year, with around 58.2m PCs sold worldwide, PC sales accounted for more than 60 per cent of the estimated $165m spent on data-processing.

"The trend of computing power has radically moved away from mainframes to the desktop, and has caused a surge in spending on PCs, networks and software," says Dataquest, the market research firm.

> Years of PC price wars have taken their toll on suppliers' profit margins

Although there are now signs that the mainframe market is being rejuvenated somewhat through the use of cut-price complementary metal oxide semiconductor (CMOS) technology, the shift to PCs and complex client-server computing in particular, has thrown a a spotlight on the cost of ownership of PCs themselves as corporate buyers have become increasingly concerned about obtaining value for money from their spiralling IT spending.

In response, leading PC vendors such as Compaq are building more advanced management and other features into their PC and server ranges. "The issues that concern our customers are network management, lifetime management and the cost of ownership," says Compaq's Barth.

The US-based Gartner market research group has calculated that on average, the five-year cost of networked PC ownership had risen from $19,000 in the mid-1980s to more than $40,000 today.

In fact, only a fifth of the total cost associated with networked PCs is related to the initial purchase. The other 80 per cent includes the costs of training, inventory tracking of hardware and software, software audits and updates, technical support, user downtime, data loss from system failure and so on.

However, as Price Waterhouse noted in its latest Technology Forecast, standardisation and "years of PC price wars have taken their toll on [PC manufacturers] profit margins as prices continue to fall.

"Because desktop and server PCs are a commodity, room for differentiation is small. Vendors with complex, multiple brand strategies are reconsidering this approach as users are moving back to brand names from the leading vendors."

Even so, the last six months have been difficult times for the world's leading PC manufacturers. Christmas sales failed to match up to overblown expectations in many markets and there are signs that the market for home PCs – one of the main driving forces for industry growth over the past two years – may be close to saturation in some regions, such as North America.

Meanwhile, overall growth rates in the US and some other markets such as Germany, slowed dramatically in the fourth quarter of last year leading to a spate of profit warnings, price cuts and new alliances and partnerships.

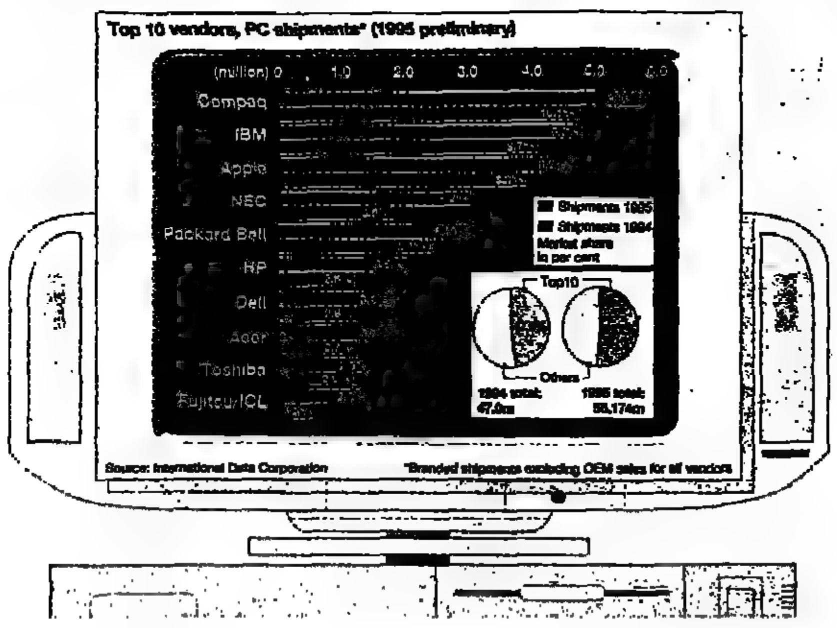
Although a record number of PCs were sold around the world last year, many manufacturers are struggling to survive on razor-thin profit margins. Almost all the main PC manufacturers including Compaq, the market leader, IBM whose PC business has staged a revival, particularly in Europe and fast-growing Hewlett-Packard, have slashed PC prices by up to 35 per cent in recent months.

This has added to even greater pressure on margins although this has been alleviated somewhat by sharp falls in component prices, particularly of memory chips. Three years ago, PC manufacturers were achieving gross profit margins of around 40 per cent of revenues. Today, the average is about 20 per cent, and the figure is still falling.

In response a number of manufacturers have been re-assessing their strategic options. Some, such as Digital Equipment, have pulled out of lower-margin segments of the business, such as the retail market, while others – including troubled Apple Computer – have announced huge stock write-downs and losses. A third group have merged their PC operations with partners or pulled out entirely.

Many analysts believe the industry's current state of 'profitless prosperity' makes it ripe for a round of mergers, acquisitions and alliances as PC companies join forces with each other, or with their component suppliers, to create an elite cadre of 'global players' capable of surviving in a high-volume, low-margin market.

Worldwide PC sales



Indeed, further consolidation appears likely following the three-way deal announced last month under which Packard Bell, the US home computer supplier, will receive $283m cash infusion from NEC of Japan and acquire the assets of Groupe Bull's struggling Zenith Data Systems unit.

The deal, which could eventually lead to NEC owning a majority stake in Packard Bell, could become the model for a new generation of PC market leaders as the industry is reshaped.

As a privately-held company, Packard Bell does not report its financial results, but industry analysts say that the company lost money last year. But Packard Bell is hardly alone among PC manufacturers in facing problems.

Within just the last few weeks, ICL has folded its loss-making PC operations to its parent, Fujitsu. And Escom, the once high-flying German PC manufacturer and retailer, faced with a falling market-share and big losses, has replaced its founder and chief executive.

AST Research, a one-time high flyer in the US PC market, has recorded losses for the past 18 months and shows no signs of a short-term recovery. Earlier this year, Samsung, the Korean electronics group, took control of AST's boardroom, highlighting the trend of Far Eastern componet suppliers to extend their global PC operations.

Meanwhile, Apple Computer, now also led by a new chief excutive, is struggling to adapt to the new PC world order and has warned of losses of about $700m for the three months to March 29. Even IBM's $10bn personal computer business, while recovering, is still only marginally profitable after several years of losses.

Continued on next page

Stylish exercises across 12,000 miles

Janet Birrel, pictured above, a lecturer in hair-dressing at Halton College at Widnes, Cheshire, demonstrates a technique of human hair extensions to a class of ten hairdressing students and lecturers at Otega Polytechnic, New Zealand, via BT's PC Videophone.

Despite the distance of 12,000 miles, the face-to-face video link was fully interactive with question and answer sessions. Britain has been at the forefront of human hair extension techniques for the last two years, says Janet.

□ **Rapidly rising sales of videoconferencing systems, based around PCs, will be 90,000 this year, rising to 180,000 next year and 350,000 by 1998, say market analysts.** **See report on pages 12 and 13**

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■ US desktop PC market – By Louise Kehoe in San Francisco

Prices fall as sales battle intensifies

Home PC-buyers now seek out the very latest machines to avoid rapid obsolescence

The North American personal computer market is becoming a battleground as leading manufacturers vie for a greater share of corporate purchases by slashing prices and struggle to maintain profits in the cut-throat consumer sector.

Compaq Computer, the market leader, precipitated the brawl by cutting prices in early March on its corporate desktop PCs and PC servers, machines that link desktop PCs to networks. Hewlett-Packard, Digital Equipment and International Business Machines responded quickly with matching or even deeper price reductions.

At stake is the most profitable segment of the PC market. Network servers, in particular, carry much higher profit margins than standard PCs sold through retail channels to home computer and small business buyers.

While gross profit margins in the US consumer PC market have dropped sharply over the past three years to about 15-20 per cent of revenues, network servers have been commanding margins close to 40 per cent.

Compaq Computer dominates this segment with an estimated 36 per cent market share. As a result, its operating profits have generally been well above those of competitors for the past few years.

Now HP, IBM and several other companies are targeting the network server market and they claim to be gaining ground on Compaq.

"Compaq has been winning in PC servers because nobody else has been on the field. Now we are in the game," said Michael Coleman, IBM general manager of PC server products. IBM's PC server sales grew by 29 per cent in the fourth quarter versus the same period in 1994, he said.

Intel, the leading supplier of microprocessor chips to the PC industry, is playing a central role in this new market battle. Over the past two years, the chip company has become one of the world's largest manufacturers of the PC 'motherboard', the main circuit board in a PC.

Intel entered the motherboard business in a bid to accelerate market acceptance of its rapidly advancing microprocessor technology. The company explains that established motherboard manufacturers, many of them relatively small Taiwanese companies, were slow to invest in the design of new circuit boards using Intel's latest chips, so Intel stepped in and made the motherboards itself.

However, Intel's production of circuits containing its latest high powered Pentium Pro microprocessors, has enabled PC manufacturers to quickly enter the network server market. This has generated more competition for Compaq, which in the past has been able to keep ahead of competitors because it has in-house circuit design and production facilities.

Ekhard Pfeiffer, president of Compaq, the personal computer market leader

For Compaq, which garners an estimated 50 per cent of its operating profits from sales of servers, according to market analysts, mounting competition spells trouble.

"We believe that we need to maintain a momentum and a market-share position that is considerably above the competition," said Mr Daryl White, Compaq chief financial officer, explaining the company's decision to reduce its server prices last month. While the largest US computer companies battle over the corporate PC market, competition in the consumer PC sector remains intense.

To differentiate their products, leading manufacturers are launching new models with faster microprocessors, added features and increasingly large "bundles" of pre-installed software, at least twice a year.

Although consumer PCs were traditionally less powerful than office models, the reverse is now true as home PC buyers seek out the very latest technology to protect themselves against rapid obsolescence. The popularity of multimedia applications – including games, entertainment and online information services – has driven home PC technology ahead of that used in the standard office PC, although the gap is beginning to close with the emergence of business applications of multimedia technologies.

An estimated 39 per cent of US households are equipped with a PC and close to half of these have two or more computers. To reach the larger audience of families that have yet to take the plunge into home computing, manufacturers are attempting to "bring the PC into the living room", making it part of a family entertainment system together with the TV, video recorder and stereo.

Gateway 2000, the leading mail and telephone order seller of consumer PCs in the US, recently launched a new type of home PC specifically designed for group use in the home. Combining a big-screen television with a PC, the so-called "multimedia theater system ... will move the home computer out of the home office and into the family room," said Ted Waitt, Gateway chairman and chief executive.

Gateway is not alone in trying to find the key to the 60 per cent of US households that have yet to purchase a PC. Another approach that is gaining credibility is the so-called Network Computer, promoted by Larry Ellison, chairman and chief executive of Oracle, the leading database management software supplier.

Mr Ellison maintains that PCs are too complex and expensive. Instead, he proposes a $500 machine that could be hooked up to a television set and to the Internet via either a telephone line or TV cable network.

Whether or not the Network Computer takes off, the biggest challenge facing US PC manufacturers is how to maintain – or perhaps improve – already slim profit margins. In the current market environment, only the largest manufacturers, who can take advantage of the economies of scale to minimise costs, appear likely to flourish.

■ European PC market – By Paul Taylor

The shake-out starts

Europe's older indigenous manufacturers have performed unimpressively

The European market for personal computers continues to outperform its transatlantic counterpart, but there are signs in some markets, particularly Germany, that growth is flagging.

Last year the PC market in Europe grew by 25 per cent to 14.7m units, according to Dataquest, the market research firm. This growth was fuelled by strong corporate purchasing and the demand for high performance multimedia machines for the home market.

Dataquest expects growth in the professional market to peak at 15.1 per cent this year and to fall to less than 10 per cent by 1999, as the corporate end of the market becomes saturated. In the private market, growth is expected to remain strong in those countries where economic conditions are favourable.

"Driven by growing PC-awareness, lower-cost products and a greater depth of retail coverage, growth at a European level is expected to exceed 20 per cent in each of the next three years, and provides the main engine for growth for the PC market as a whole," said Dataquest in its annual *European IT Perspective*. However the main beneficiaries of this continued market strength have been foreign-owned manufacturers, led by Compaq, IBM and Apple Computer, which remain the top vendors in Europe. Six of the European top 10 PC vendors in 1995 were US-based multinationals, and three of those, Compaq, Hewlett-Packard, Dell and AST were among the fastest growing brands.

Among the indigenous European manufacturers, Siemens Nixdorf (SNI) was the only company to increase its market share – and top ten ranking – substantially, and the only mainstream branded supplier to post a profit in its PC operations.

Indeed, a spate of recent announcements suggest that the long-awaited consolidation of the indigenous European personal computer industry could finally be under way, a process which some in the sector believe will eventually lead to the survival of perhaps just one European PC vendor.

Among the developments so far this year:

□ Groupe Bull, the French IT group, transferred its loss-making Zenith Data Systems unit into Packard Bell, the US retail specialist as part of a three-way deal with NEC of Japan. The deal was described by Bull chairman Jean-Marie Descarpentries, as a "winning alliance", but is seen by most analysts as a move by NEC to provide financial assistance to Packard Bell while consolidating its equity stakes in both Packard Bell and Bull.

Manfred Schmitt: stepping down as chief executive of the once high-flying Escom

Bull chairman Jean-Marie Descarpentries: spoke of 'a winning alliance'

Olivetti's chairman, Carlo De Benedetti: another restructuring plan is under way

Gerhard Schulmeyer, SNI's chief executive: aiming for economies of scale with PC supplier Vobis

Mr Descarpentries, who has steered Bull back to a FFr308m profit last year while re-organising its business and its capital base, says that ZDS was too small to survive on its own. Instead, he believes that the alliance with NEC and Packard Bell will enable the group to compete on a global scale. Meanwhile, he is looking for another European partner to take a shareholding in it, matching those held by Motorola of the US, France Telecom and NEC.

□ ICL, the UK-based computer and computer services group, has folded its Fujitsu-ICL branded PC operations, ICL Volume Products, into the worldwide PC operations of its majority owner, Fujitsu. Last year ICL, which acquired German's Aquarius Robotron Systems in Germany in 1995, sold about 500,000 PCs and more than 10,000 servers, and had sales of more than £680m.

ICL will retain between a 15 and 19 per cent stake in the new Fujitsu-led PC unit which will have worldwide sales of about 3m units and a particularly strong position in the Japanese market. Commenting on the deal Mr David Mills, managing director of ICL Volume Products, said: "I believe 1996 is going to be a year of major consolidations and rationalisations among PC suppliers. Over the past 5 years the bigger suppliers have been getting much bigger, the smaller suppliers have been losing market share.

As part of the Fujitsu PC operations, the business aims to grow by 50 per cent a year and become one of the top three European suppliers .

□ Escom, the once high-flying German PC manufacturer and retailer which acquired the Rumbelows high street stores in Britain last year, unveiled a Dm120m loss for last year blaming, in part, lower than expected fourth quarter sales. At the same time, Siemens Nixdorf's stake in Escom was increased from 10 to 12.5 per cent after Escom announced a DM100m refinancing package. Mr Manfred Schmitt, who holds 23 per cent of the equity, is stepping down as chief executive to make way for a former Escom executive – Mr Helmut Jost, who runs IBM's German PC business.

Siemens Nixdorf announced that it had had acquired a 10 per cent stake in Germany's other main PC supplier Vobis, which sells under the Highscreen brand.

Commenting on the Vobis deal, Mr Gerhard Schulmeyer, SNI's chief executive, said: "The primary motivation for this strategic move was to create opportunities for joint bulk buying and to benefit from the resulting economies of scale in the purchasing sector." Vobis, however, said the two companies might also co-operate on assembly.

The deals with both Vobis and Escom underline SNI's growing confidence and its increasing strength in both the domestic German and the European PC markets following a restructuring programme initiated by Mr Schulmeyer. Siemens Nixdorf moved into profit for the first time last year when it posted pre-tax profits of DM62m on sales of DM12.8bn. Under Mr Schulmeyer, the company has adopted an international growth strategy and has become one of the fastest growing European PC manufacturers – and one of few not losing money.

Meanwhile, Europe's other main computer manufacturer, Olivetti of Italy, is undergoing yet another restructuring plan with a rights issue aimed at replenishing its weak finances. While Olivetti has been emphasising its focus on the telecommunications sector, its loss-making PC operations, which had revenues of L1.5bn last year and sold 720,000 units, have been radically pruned.

Under Corrado Passera, chief executive of Olivetti Personal Computers, the workforce has been cut from 4,500 to 1,800, the number of production facilities have been cut from three to one and the business has been refocused.

While Olivetti's chairman, Mr Carlo De Benedetti, has said its PC business will be closed down or sold if it fails to stem its losses, Mr Passera's new management team is stressing that "the turnaround is well under way".

"Shipments in the first two months (this year) were in line with our growth objectives and our low inventory at the end of 1995 meant we were able to cut list prices ahead of almost all our competitors following reductions in both component and other costs," he says. Nevertheless, the performance of Europe's older indigenous manufacturers has generally been unimpressive. Recent events highlight once again that in order to survive, PC manufacturers either have to be global mass market vendors, such as Compaq, or much smaller niche market or local PC assemblers, such as Amstrad's Viglen unit.

Andreas Barth, Compaq's senior vice president in charge of Europe, the Middle East and Africa blames the difficulties of the European computer industry on the fact that they have mainly operated in protected local markets.

The need to expand local sales in order to stand a chance of competing in the global PC market is reflected in the increasingly widely held view that a PC company needs to produce perhaps 2.5m units a year in order achieve the purchasing economies of scale necessary to compete.

Such large-scale production also requires a pan-European distribution strategy and effective local managements, something that many of the indigenous European PC-makers have so far failed to achieve. In contrast, almost all of the big foreign-owned PC-makers have established manufacturing operations in western Europe arguing that the key to success in Europe as elsewhere, is to "think global, but act local."

Rapid growth in the consumer sector of the PC market

Continued from previous page

Several trends in the PC market are behind the industry's woes. Most significant has been the rapid growth of the consumer sector of the PC market, which is more price-sensitive than the corporate and government sectors.

This, in turn, has helped fuel the 'commoditisation' of the PC market in which most PC manufacturers use the same standard components and software making their products very similar. Thus, competition is increasingly based on price.

Intel, the leading chip-maker, has also played a central role in reshaping the PC industry. Not only has it been aggressively cutting the prices of its microprocessors, it has only become one of the world's largest manufacturers of PC motherboards. This, in turn, has enabled companies such as Packard Bell and other 'clone makers' to fragment the market and intensify price competition.

But despite the pressures, some PC manufacturers continue to thrive. Among them, Compaq Computer, the world market leader and Hewlett Packard, both continue to grow strongly, in part because they have strong positions in the higher margin 'server' market for computers that power PC networks.

Hewlett-Packard, the second-largest US computer company, has made a successful entry into the consumer PC market over the past year while Dell Computer's growth has been fuelled in part by its success in the mobile ccomputing market.

However, for many smaller PC manufacturers – unless they are specialist niche players – the outlook is not so rosy. Most industry participants suggest that in order to achieve economies of scale – particularly in component purchasing – annual volumes of at least 2.5m units are needed.

For this reason, many smaller vendors are expected to combine to achieve 'critical mass' while others will be acquired by PC component suppliers seeking direct links to the end-user market.

Today, it seems that succeeding in the PC market has more to do with marketing, distribution, logistics and sheer size, than with technological innovation and prowess.

□ Next month's FT-IT Review will include a special focus on mobile computing

Dell's sales grow rapidly in Japan and Asia-Pacific

Continued from page two:

and we were not particularly focused on cash flow and liquidity. We had parts of the business doing well, and parts not doing so well, and we didn't understand that as well as we should."

Second, Dell's management systems could not cope easily with the increasing complexity of the business, as the company moved from one product to three or four; from a single geographical market to many; and from one distribution channel to several.

Third, some of its managers simply could not keep up with the pace of growth and complexity. Says Michael Dell: "It's not feasible for a $1bn company to recruit the [right] people to run a $5bn company, and that is one of the big challenges of an industry like ours, where the business is growing so dramatically."

Dell set about solving these problems by hiring a new team of experienced high tech industry executives. The most important addition to the team was vice chairman Mort Topfer, a long-time Motorola executive who had been running that company's global land mobile products business.

Michael Dell refers to him as his "joint chief executive." Topfer focuses on organising the group's day-to-day operations, where he has much more experience than Michael Dell, while the chairman concentrates on strategy. Other senior executives have been hired from rivals Apple, Hewlett-Packard and Sun Microsystems.

The company also strengthened its team of non-executive directors, bringing in figures such as Michael Miles, the former chairman of Philip Morris, and Michael Jordan, the chairman of Westinghouse Electric.

To cope with its fast-growing international presence, Dell changed its organisational structure from a functional one to one based on four regions – Europe, Americas, Asia-Pacific and Japan – each headed by a general manager.

It introduced much greater discipline into its financial controls, most notably in inventory. Dell already enjoyed an advantage over rivals in this area, since its machines are built directly to customers' orders, rather than going through the hands of resellers and retailers.

Dell says it operates with about 36 days of inventory, compared to around 100 days for indirect sellers – an edge which is particularly significant in an industry where components costs are constantly falling and technological change is extremely rapid.

It also revamped its product range, mostly notably with the introduction of the Latitude range of laptops, which has substantially boosted its share of this market segment.

The company's culture has changed, too: "There is a much higher priority placed on planning, on rigour and discipline in the way we're running the business, and in balanced results," says Michael Dell.

"There's a realisation that while there might be an infinite number of good ideas [the company could develop], we are only going to pursue a few of them."

All this has translated into renewed growth in sales and profits, and strong cash flow. In the year to February 1994 Dell recorded a net loss of $35.8m, but it bounced back in 1995 with net income of $149m and made £272m in the year just ended, on sales of $5.3bn, up 52 per cent.

However, it cannot afford complacency: the personal computer market is ferociously competitive and in the fourth quarter Dell suffered a decline in margins and some snags in a new model introduction. With a relatively small share of the market, it also faces much deeper-pocketed rivals in the form of Compaq, IBM and Hewlett-Packard.

Some analysts have expressed concern about Dell's absence from the retail market, since home use of computers is such a fast-growing segment.

The company dipped its toe in the retail market in 1994 but rapidly withdrew from an area dominated by the likes of Compaq, with its strong brand name, and Packard Bell, with its aggressive pricing. Michael Dell says the company found that first-time buyers were using up a lot of its technical support resources.

Dell has concentrated instead on more sophisticated, higher margin corporate and government buyers, which account for about 75 per cent of its business.

Michael Dell argues that more and more business customers will prefer to prefer to buy direct, and that large international companies like to deal with a manufacturer directly, rather than a multitude of resellers in different countries.

There are, he adds, plenty of areas that Dell regards as of much higher priority than the home PC buyer. They include notebooks, servers, and markets in Japan and Asia-Pacific, where the company's sales have been growing rapidly.

Nevertheless, he reckons Dell will gradually gather momentum in the home market by selling directly to sophisticated second time purchasers. He is not interested in the first time home buyer – "let Packard Bell educate them," he says.

But over the second half of the 1990s, as more and more of these people are knowledgeable, and have experience of either a first-time home machine or one at the office, "the direct channel will be perfect for them".

■ **Workstations** – By Rod Newing

Route to more creative use of computing power

As PCs offer increasing power at lower cost, workstation vendors are continuing to provide competitive advantage to users through technical innovation

Innovation, not power, is the key to understanding the desktop workstation market. In this market, it is assumed that all products have the ability to provide a high degree of computing power. Power has almost become a commodity in the IT industry, offering little in the way of competitive advantage.

With the increasing use of Pentium and Pentium Pro processors running Windows NT, the workstation vendors must increasingly depend on their ability to innovate to protect their markets.

The workstation market offers competitive advantage to users through innovation in two ways: firstly, it introduces innovations not previously seen in computing, which are then passed on to the PC market. It also acts as a link in a chain of innovation, taking up innovations from the supercomputer market, bringing them to the desktop and passing them on to PCs later.

As the testing ground for new technology, workstations are important to the continued development of the PC market. Far from being threatened by the increasing power of the PC, the workstation vendors see themselves in a strong position to continue to compete.

"Desktop workstations are more complimentary to PCs than competitive," says Andrew Cresci, UK marketing manager for Silicon Graphics. "We invest 10-13 per cent of out turnover in research and development, which is high by industry standards, to create products which do not yet exist in the industry. An innovation may start on a supercomputer, but within two years it would be available on a £30,000 workstation. Eighteen months later it would have worked its way down to £5,000-10,000 workstations and two years later would be available on PCs."

An example of innovation in this market is the incorporation of multimedia technology. Silicon Graphics have re-designed their Indigo workstation to include full multimedia support, especially video-conferencing. A video camera is built in and the entire architecture of the product has been designed to eliminate bottlenecks in the very high data flows which video causes. Video and audio editing software is pre-installed so that users can work with their media from day one.

Controversially, Sun Microsystems have taken multimedia integration a stage further by incorporating multimedia support and graphics acceleration into the processor in their new 64 bit Ultra workstation. "Processor speeds are growing faster than any other component, so we are making this speed available to users," says Chris Saras, Sun's Workstation Product Manager.

The Ultra incorporates a cross-bar switch instead of a conventional 'bus', an approach inherited from supercomputers. It also includes frame buffer technology to store graphics in three dimensional random access memory. Jointly developed with Mitsubishi, this approach increases graphics performance by a factor of ten.

These innovations bring big benefits to users for little extra cost – "once we have recovered the up-front development costs, we can make these innovations available at no additional cost," explains Mr Saras.

But it is important to realise that the benefits of these innovations may lag their introduction. The vendors make their innovations available to software developers, who then have to produce software to exploit these advances.

"As a result of our multimedia support on our processors, we expect to see developers providing video help instead of hypertext," predicts Mr Saras.

Silicon Graphics has introduced the Onyx 'InfiniteReality', claimed to be the world's fastest and most innovative visualisation supercomputer, able to process graphics, imaging and video data in real time

Mr John Saw, Hewlett Packard's technology marketing manager, warns: "The big challenge is for companies to pick the right technology and use it effectively, rather than just because it's the latest fashion."

"A good example of the effective use of high performance graphics technology is video animation, which has cut down the time and cost involved in producing spectacular scenes in films."

The cost of a workstation, which range from £5,000 to £50,000, is likely to be cost-justifiable for applications which deliver critical competitive advantage, such as finance, scientific, technical and creative professionals.

They tend to be key creators or analysts in the organisation who 'link' their brains with technology to make profits or develop new products.

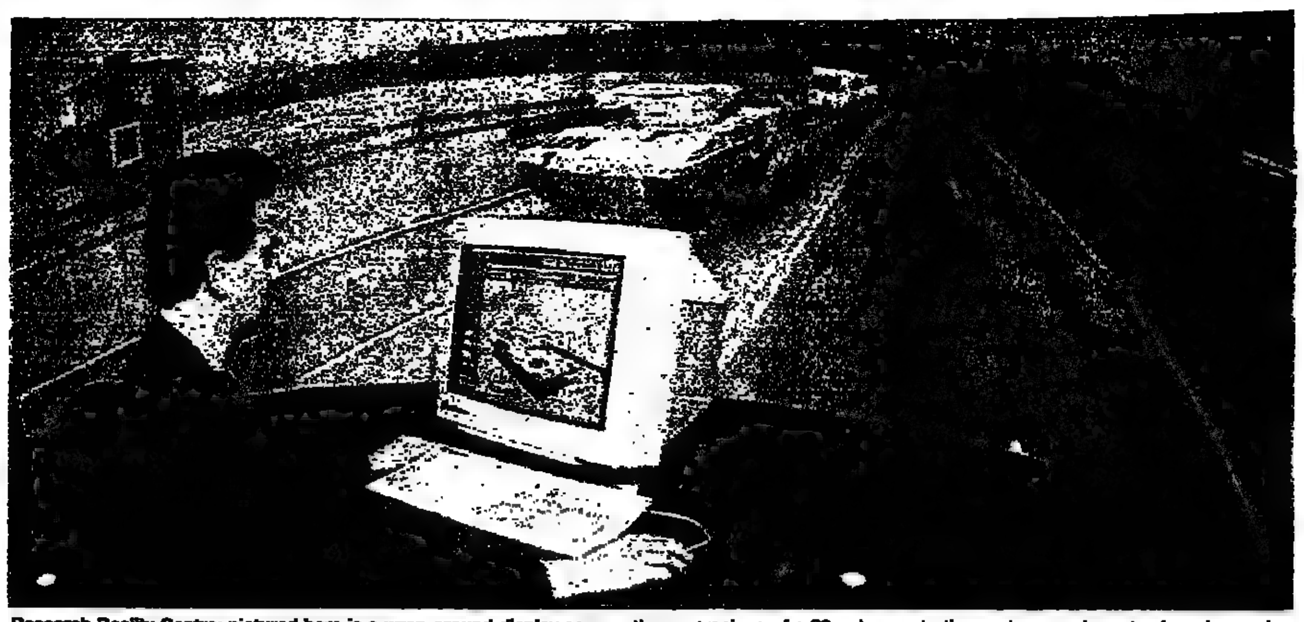
Application areas where the use of workstations are growing are those which combine complexity with high security and good network ability. These include financial analysis, especially the evaluation of derivatives, network management and telecommunications.

Workstations are also used extensively in computer-aided design and games, which are covered in more detail elsewhere in this supplement.

Clearly, the Unix workstation market is losing share at the lower end as the power they offer becomes matched by Intel PCs running Windows NT. The demand from users from this combination is such that the Santa Cruz Operation, who used to be synonymous with Unix on PCs, has stopped actively marketing against NT Workstation and is concentrating on the server marketplace.

The workstation vendors see the Intel and Windows NT combination as being threatened by the introduction of network computers. They see the lower end of the workstation market losing their commodity type applications to the world-wide web and serious business applications based on Java, especially when implemented on an organisation's internal 'Intranet'.

Clearly, the desktop workstation vendors are confident of their ability to compete against the threat of increasing PC performance. They will fight the commoditisation of PCs by continuing to provide innovations, either directly or by transferring it from supercomputers – "the workstation market must provide features and functionality ahead of the market," concludes Mr Cresci. It is in the interests of all PC-users that they succeed.



Research Reality Centre: pictured here is a wrap-around display screen, the centrepiece of a £2m demonstration and research centre for advanced interactive media, near Reading. The centre, using Silicon Graphics systems, helps UK companies develop products and applications with the latest technology. The system creates virtual environments, ranging from advanced theme park rides to road vehicles and oil rigs for safety training

■ **Computer-aided design** – By Tom Foremski in Forestville, California

Fresh challengers emerge

The three-dimensional modelling market becomes larger and more mainstream

When it comes to high-end workstations for Cad/Cam applications, the workstations from Silicon Graphics are among the best performers, integrating fast microprocessors with three-dimensional graphics technology and a wide range of third-party software applications that enable companies to quickly design complex new products.

Silicon Graphics workstations are not the cheapest on the market but they offer good cost/performance ratios – and, for many users, the extra money spent on the workstations pays off in terms of faster product-to-market cycles and improved designs.

Silicon Graphics faces competition from workstations from IBM, Hewlett-Packard, Sun Microsystems and Digital Equipment Corporation, and at the lower end from Intel Pentium Pro-based systems. But it continues to dominate the high-end performance sector of the market and spends tremendous resources on maintaining a competitive lead.

In order to continue driving its technology forward, the company recently announced high performance versions of its Mips reduced instruction set computer (Risc) microprocessor and a new line of workstations based on the chips. Silicon Graphics has also teamed up with Hollywood studios and entered into partnership with the movie studio DreamWorks, co-founded last year by director Steven Speilberg, to develop systems for digital based movie production.

Realism

Silicon Graphics workstations achieved widespread fame when they were used to create the critically acclaimed and realistic dinosaur scenes in the film "Jurassic Park." *See page two - an interview with Ed McCracken, chief executive of Silicon Graphics.*

While the company's involvement in Hollywood might seem to be something of a vanity project, there is a good commercial reason for the company's work in this area – "the software that designed the dinosaurs in *Jurassic Park* can be adapted to modelling the shape of cars, for example. And it has. Hollywood is really driving a lot of our technology," says Mr McCracken. The technology the company develops for Hollywood studios is useful for other types of applications in the Cad/Cam area. Improved 3-D modelling offers users a faster way to design and test new types of products.

Silicon Graphics made its name in the Cad/Cam area. From its beginnings, it has specialised in developing 3-D visualisation systems. This technology is integrated into its systems and into the Mips microprocessors it uses and designs. The latest Mips R10000 microprocessor is considered one of the world's fastest chips and it can also be used in multiprocessor systems in which several Mips microprocessors can be combined to provide supercomputer levels of performance.

As the 3-D modelling market becomes larger and more mainstream, Silicon Graphics faces challenges on the low end of its workstation range. Intel's Pentium Pro microprocessor is a very fast chip and it can be combined with the Microsoft Windows NT operating system to provide a capable platform for Cad/Cam applications. And the fact that it is a standard platform, means that workstations can be produced relatively cheaply and it can attract larger numbers of software developers to produce Cad/Cam applications.

Forecast

"Silicon Graphics workstations still hold the high end of the Cad/Cam market where facilities such as real-time 3-D manipulations are important. But at the low end, it is becoming possible to build Cad/Cam systems on Pentium Pro based platforms at a much lower cost," says Andrew Feit, senior industry analyst at Dataquest, the market research company. "Silicon Graphics used to be able to say you can't do this on a PC, but now it can't say the same thing."

As the company innovates at the high end, it eventually pushes its 3-D visualisation technology down to cheaper platforms and eventually into the consumer market – as can be seen with the Sony PlayStation and the forthcoming Nintendo Ultra 64 video games consoles that offer stunning 3-D graphics images.

■ **Enterprise servers** – By Tom Foremski

New ways to handle the data deluge

The high-speed ServerNet 'really puts a stake through the heart of the mainframe'

Enterprise servers provide large organisations with a way to store and distribute large amounts of data. For such tasks, mainframes have long been the traditional solution, but these systems cannot efficiently handle huge data flows.

The demands of new types of services such as video servers which process large amounts of video data at high bandwidths; plus multimedia-based databases which handle a mix of large data files; and world-wide web servers handling thousands of users – all demand fast responses and they challenge the performance of most current computer systems.

The standard client-server approach to networking computers works satisfactorily for most applications, but this type of architecture quickly runs into performance bottlenecks when companies try to increase the number of users. Client-server architectures cannot be easily scaled upwards without losing performance.

For example, at Intel's Internet Technology Labs, researchers are investigating doing away with the standard client-server architecture and instead, using a peer-to-peer technology they have dubbed PandoraNet.

The idea with PandoraNet is to allow every PC connected to the network to act as both the client and the server. While peer-to-peer networks have been around for many years and are useful for low-performance applications, PandoraNet takes the concept much further and potentially becomes a powerful replacement for client-server architectures.

Intel believes that as PCs become more powerful, a lot of the computer power of the PC remains unused for much of the time. These so called "spare cycles" could be harnessed for other applications such as PandoraNet. A network of several hundred Pentium-based PCs, for example, could be much more powerful than a dedicated server, and it would also make use of the unused computer processing capacity within an organisation. The key is to find a way to distribute the server functions across many PCs.

Another technology that promises to provide high performance enterprise-class computing is Tandem's ServerNet. This essentially builds a network architecture within a server in order to handle large data files and fluctuating bandwidth demands by performing very fast input/output functions. ServerNet is attracting a lot of attention because it can deal with different processors, different data storage systems and deal with various types of communications.

> Tandem's ServerNet is also 'a very significant technology for building clusters of computers out of cheaper PC platforms'

ServerNet is basically a very high-speed switching system that can, for example, transfer data from a storage device directly to a high communications network and bypass the processor, saving time and cost.

Theoretically, ServerNet can handle as much as 150 terabytes per second, an enormous bandwidth capable of dealing with any current computer application and setting a foundation for future applications well into the next century.

"ServerNet is a very significant technology," says Gordon Bell, founder of Digital Research Corporation and a senior researcher at Microsoft. "There is really nothing like it anywhere else. It's also a very good technology for building clusters of computers out of cheaper PC platforms. It really puts a stake through the heart of the mainframe."

Bell explained that many companies have attempted to build similar systems, but none of the alternate solutions are as good as ServerNet. But the success of ServerNet depends on how well Tandem can establish it in the industry. Tandem says it is willing to license the technology to third parties on an OEM basis.

"We have announced agreements with Compaq Computer and NEC to use ServerNet in their systems and we expect to make similar announcements involving other large companies later this year," said Richard Hellyer, systems marketing manager at Tandem. "We are also involved in the Microsoft-led consortium developing standard interfaces for cluster-based systems."

Mr Hellyer says that ServerNet is available on the recently introduced Tandem S4000 Unix system. ServerNet will also be available on Tandem's Windows NT systems and on its high-end Himalaya systems.

A key feature of ServerNet, is that it supports parallel processing architectures. This involves the combining of hundreds of processors which break down an application into many separate parts in order to process the application at very high speeds. In such parallel processing systems, the connections between the processors are a key factor in how well the system operates. ServerNet speeds up these connections to create highly efficient systems.

The market and research firm, Aberdeen Group, believes that ServerNet will be useful in addressing a host of new computing challenges. In a report last year, it highlighted some of the computing challenges facing organisations: "Numerous forms of electronic commerce, from electronic data interchange to global messaging, will demand more throughput than current processor and software-bound architectures can tolerate."

The Aberdeen report points out that "with video messaging capable of generating 10 megabytes a minute, a current parallel-scalable computer may be able to adequately process the information, but will be unable to manage the future massive throughput that could easily amount to as much as 40,000 times more than the demands of simple text-only e-mail."

Andersen Consulting, which works with large organisations around the world on solving computing problems, is also a big supporter of ServerNet. John Kunzweiler, a partner with Andersen Consulting, says: "Today, our clients are looking for breakthrough applications that effectively incorporate graphics, imagery, video and voice. This drives an incredible demand for scalability and bandwidth that has not been commercially viable."

Tandem is making a big push behind ServerNet after spending more than $250m in its development and it hopes that it will become an industry standard and that it will help lower the price and increase the performance of large systems.

■ **InterForum 96**

London symposium on the future of desktop computing

A European audience of directors and senior personnel from the IT-user community will hear an impressive line-up of speakers taking part in InterForum 96 in London on Friday, June 7 when the theme will be "the future of the desktop – business strategies for the network-centric computing era".

Sir Peter Bonfield, chief executive of British Telecom, and chairman of ICL, will deliver the opening keynote address. The closing address at the televised event at the Queen Elizabeth II Conference Centre, Westminster, will be given by Mr Larry Ellison, chief executive and president of the software company, Oracle.

InterForum 96 marks the launch of an annual IT symposium by Uniforum UK, in association with the Financial Times. Uniforum is a non-profit organisation with more than 1,200 members spanning the vendor, user and central government communities.

The one-day event will also address an international audience via the FT Television service which is available to TV stations worldwide. Other speakers will include Mr Mike Briercliffe, chairman of Uniforum UK; Mr Irving Wladawsky-Berger, head of IBM's Internet Division; Mr Philip White, chief executive and president of Informix Software; Mr Keith Todd, chief executive of ICL; and Mr Javaid Aziz, European vice-president of Silicon Graphics. Speakers' views will also be available on the Internet via the FT Web site.

□ *For more details of the event, contact Ms Connie Strong at FT Conferences, London, on tel 0171 896 2626, fax 0171 896 2696; or Mr Philip Flaxton, executive director, UniForum UK, tel 0181 332 0446.*

□ *The FT-IT Review in June will also examine business strategies for the network-centric computing era: for more details, see panel on page two of this issue.*

■ **Commercial network servers**

Networking is moving to a new level

The growth in use of commercial Unix servers in the past year has been phenomenal, writes Louise Kehoe

Commercial network servers represent one of the fastest-growing segments of the computer industry as corporate computer users move to rapidly expand networking throughout their organisations and beyond.

While almost any type of computer can be linked to a network and called a "server", demand for multi-user Reduced Instruction Set (Risc) computers, running the Unix operating system, is soaring.

These are the "enterprise servers" that are beginning to bite into the traditional mainframe computer market, as well as the midrange computers that are used for large departmental networks and by medium-sized businesses and organisations.

The growth in use of commercial Unix servers over the past year has been "phenomenal", according to the Aberdeen Group, a Boston-based market research firm. Worldwide sales jumped 48 per cent last year to $14.3bn, the researchers said in a report, published in February.

Hewlett-Packard set the pace for the rest of the industry by increasing its Unix server revenues by 57 per cent in 1995 to achieve a 49 per cent market share and $7bn in revenues.

IBM ranked second, according to Aberdeen Group, with sales boosted by its new high performance massively parallel SP system. IBM's Unix server revenues were up 45 per cent at $2.75bn, giving it a 19 per cent market share.

Sun Microsystems came in third with a 9 per cent market share, growth of 35 per cent and revenues of $1.3bn.

With new products that will expand Sun's range into the "enterprise class" server market due out later this month, the company aims to greatly increase its sales this year.

Digital Equipment, starting with a small base, achieved a record growth rate of 73 per cent, boosting revenues to $475m. Digital ranks sixth in the Risc/Unix server market with a 3 per cent market share.

"Enterprises are investing in these systems to increase the effectiveness of their business processes," the Aberdeen analysts said. "They have found that there is a real and significant payback."

The market analysts predict that sales of multi-user Risc-Unix systems will continue to grow at a rate of more than 40 per cent this year.

"Networking is moving to a new level," said Anil Gadre , vice president of corporate marketing for Sun's computer hardware division. "So far, the role of UNIX in the commercial market has been primarily for pilot projects and for departmental use," he noted.

With higher transaction throughput and reliability, Sun's new servers, which are scheduled for introduction this month, will "cause the data-centre manager to say 'I don't have to buy buy another mainframe'," says Mr Gadre.

"This doesn't mean that companies will throw out their mainframes, but we are seeing the beginning of a long-term trend away from the mainframe."

If the Sun executive's prediction proves accurate, IBM is likely to see growth in its mainframe computer sales stall. The Aberdeen Group analysts note that the mainframe computer market grew at a relatively slow pace last year of about 5 per cent, "but it would have most likely suffered the same double-digit percentage decline as in the previous five years if users had not migrated to less costly to maintain CMOS-based systems," the analysts add.

Whether or not the mainframe is a dying breed, it is clear that multi-user Unix servers are now playing a central role in enterprise computing.

One of the keys to success in this segment of the computer market is scalability, says Mr Gadre. Many customers purchasing a network server are uncertain about the size and performance of the machine they need.

Companies building an Internet site, for example, often find it hard to predict how many visitors their pages with attract. Similarly, on a corporate network, the load on the network server is difficult to extrapolate as new applications are developed.

The leading network server vendors therefore offer a broad range of upgradable hardware that enables users to start small and grow, or pick an affordable price point.

This is clearly Sun's strategy. While Sun has to date competed in the low and mid ranges of the server market, it is now targeting the market for high throughput systems where IBM and HP are the dominant suppliers.

Sun's anticipated entry into the "enterprise network" market is already fueling fierce competition from existing market leaders. Hewlett-Packard, for example, has launched a pre-emptive strike, offering Sun customers special incentives to upgrade to its highest performance servers.

HP announced last month that Sun customers can trade in their equipment to win discounts of up 20 per cent on the cost of an HP 9000 server.

"HP is giving Sun customers the opportunity they've been waiting for: an easy and supported upgrade path to the enterprise-class, scalable family of HP 9000 servers," says Carol Mills, general manager of HP's General Systems Division, as she launched HP's aggressive marketing campaign.

Even as leading computer manufacturers vie for a bigger slice of the fast-growing market for Risc-Unix servers, however, manufacturers of computers based on Intel's microprocessors – running either Unix or the Microsoft Windows NT operating system – are nipping at their heels. Both could represent a significant challenge to today's leaders in the commercial server market.

■ Storage management and new media — By Geoff Nairn

An exploding marketplace

Desktop video systems and the Internet bring rising demands for data storage

Keen interest in multimedia and corporate server systems is fuelling strong growth in the hard disk market, but new storage needs are emerging as users struggle to manage their gigabytes of information.

One of the surprise "hit" products of 1995 was a low-cost storage device that uses removable 100MB hard disks: combining the portability of a floppy disk with the high capacity of a traditional hard disk, the Zip Drive's success surprised its US manufacturer, Iomega, which cannot make enough of them.

The drive costs £150 while the 3.5-inch Zip disks cost £17 and can store the equivalent of 70 floppy disks, making them ideal for organising and transporting large multimedia files or data relating to specific clients and projects.

Removable magnetic and magneto-optical drives fill a gap between traditional hard disks which are fast but relatively expensive and cheaper storage, such as tape drives, which are much slower.

This concept of hierarchical storage management (HSM) comes from the mainframe world and is becoming increasingly important for desktop computer users, particularly in networked environments.

Network server storage needs are growing at 60 per cent a year as networks replace mainframes as repositories of corporate information. A typical network with 5 gigabytes of storage may contain 400,000 files. Many are used rarely or never, but removing the dead wood is a tedious task. Dave Holland, managing director of UK storage systems company Tape Pro Systems, says: "This volume of data is simply beyond the capability of an administrator to control without some type of automated support."

The US company Cheyenne Software sells a product, Cheyenne HSM, that after 90 days of inactivity transfers dormant files from Novell and Unix networks to optical disks; after a further 90 days, they move to cheaper cartridge tapes. The files are shown as still present to users and are automatically reloaded if needed.

Cheyenne HSM costs from £5,100 (£7,000 for Unix) while IBM has a similar product, called ADSM, which typical costs £6,000. David Ball, Cheyenne marketing manager, says the company plans to offer a cheaper version of its software for desktop computer users, which will also include an automatic back-up facility.

"Back-up awareness is low with home users, even though they may have their home finance files on the PC," he says.

Despite the growing importance of storage management and new media, the industry's main focus continues to be higher capacity hard disks.

Today, a single gigabyte (GB) disk for a PC costs less than £150. The relentless price erosion – market research firm Dataquest estimates prices drop 10 per cent each quarter – and speed of technological development have triggered a spate of mergers and acquisitions as disk-makers strive to improve efficiency and reduce dependency on low-margin PC disks.

Western Digital, the US manufacturer most reliant on PC disks, plans to belatedly enter the "enterprise storage" market in September, with hard disks for corporate servers and workstations. These offer higher capacities and greater performance than PC disks; they also command better margins.

Fellow US drive-makers, such as Seagate and IBM, have adopted the same strategy. IBM has turned round its once-ailing storage products division by focusing on higher-margin products, such as drives for portable computers and corporate servers.

Big requirements

"Thanks to keen interest in applications such as desktop video and Internet, the storage market is exploding," says David Trussler, IBM European marketing manager for storage products. A minute of full-motion video requires tens of megabytes of storage, while a 4GB hard disk is the minimum needed for a small Web site. Larger corporate sites need much more. High-performance hard disks spin faster and use Small Computer Systems Interface (SCSI) technology to transfer data at higher speeds. PC drives, while two to three times cheaper, have traditionally used a slower interface technology called Integrated Drive Electronics (IDE).

However, the gap is now closing as PC disk-makers adopt the new Enhanced IDE technology, which transfers data at up to 13 MB a second – a speed comparable to the latest SCSI disk drives.

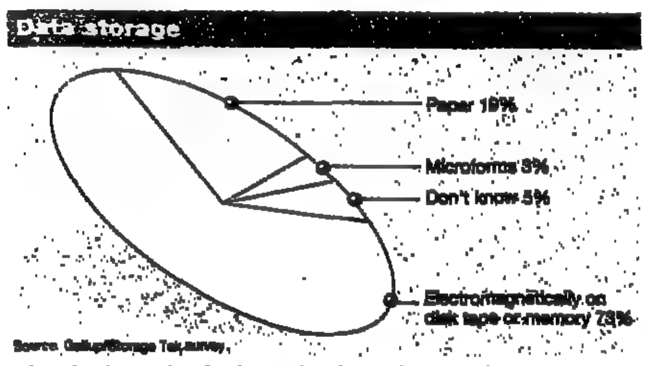
Another lucrative storage market is disks for portable computers. Here, IBM has a strong technical lead with its magneto-resistive head technology, which crams more data on to the smaller 2.5-inch disks used in portable computers.

Western Digital plans to offer a radically new 3ins. drive later this year. This should bring down the costs of portable drives as 2.5ins drives "are historically difficult to make," according to a Western Digital spokesman.

The company will use 3ins technology developed by the Singapore company JTS, which is working with US portable computer maker Compaq Computer. The US market research firm IDC predicts 115.5m hard disks will be shipped worldwide this year, 30 per cent higher than in 1995, though it says suppliers will face renewed challenges as the pace of technology development continues to quicken.

Electronic vault for data: staff at work in the 'TeleVault', a managed off-site data storage service by Securicor SecurIT. The innovative system offers automatic storage and retrieval of data, controlled from a single PC at a customer's premises. Surveys show that most companies are looking for easier-to-use back-up systems

Data storage



Source: Gallup/Storage Tek survey

Although advanced technology exists for storing data electromagnetically, the cost and scale of projects and the time taken to bring new systems on line were perceived to be the key considerations in a new survey among 100 IT directors in UK companies. The survey was carried out by Gallup for StorageTek, the data storage specialists

■ Standards in networking — By George Black

Network managers face a hard choice

Novell, the software company, has recently changed its strategy against arch-rival, Microsoft

Novell's Netware, for a decade the leading network operating system for desktop computers, may be threatened by Microsoft's Windows NT (New Technology) Server.

Although Netware had its most successful year in 1995, many network managers are now considering adopting Windows NT. Some are starting to ask if they will really need two network operating systems in the long term.

If they are determined to standardise on one system, they may eventually decide to do without Netware. This has not happened to any significant extent so far, but people in the industry are watching developments closely to see how seriously the progress of Windows NT will impact Netware. Market research companies have predicted that Windows NT will gain a steadily larger share of the operating system market at the expense of both Netware and Unix. Unix is at present the favourite operating system for the server end of client-server corporate systems.

It starts to look as if Netware could lose more than Unix. Netware at present represents 64-66 per cent of the installed base of operating systems worldwide, while Windows NT has only around a 6 per cent share, according to the latest market research.

However, research figures from International Data Corporation indicate that Windows NT is gaining ground against Netware, with 18 per cent of European sales of server operating systems in 1995 against Netware's 40 per cent.

Mark Hassall, a UK product manager for Microsoft, declines to predict when Windows NT may overhaul Netware, but he points to independent forecasts that it will become the preferred application server platform by 1998.

He argues that Windows NT's strengths as an application server make it more suitable for managing business-critical systems such as e-mail and groupware.

"If it succeeds as an application server, it will also succeed as a network operating system," he says.

Microsoft concedes that many users have a large investment in Netware which they will not want to throw away. Their computing staff also have Netware skills, but far fewer have Windows NT skills. So, for the near future, Windows NT will have to co-exist with Netware.

Novell's management has recently changed its strategy against Microsoft. Abandoning its bid to challenge Microsoft across several fields, it has sold off its Wordperfect word-processing subsidiary and is now concentrating on improving the functionality of its networking products.

Netware has grown from a simple but efficient file server and print server system into a complex network operating system. If Novell can add to those features faster than Microsoft can develop similar ones, then Netware may retain its supremacy.

Some analysts doubt whether from a technical standpoint standardising on Windows NT would be the best solution for network managers at present.

For example, Waverly Deutsch of Forrester Research argues that, although Windows NT is a much better application development environment and has more applications available, Netware is still far ahead of Windows NT in networking functions – "users therefore need both," she says.

Netware is generally seen as being better for systems management and network management and as having an important edge in managing directory services.

The latter is one of the principal battlegrounds between the two companies. An enterprise-wide directory enables users to obtain information easily from any point on a network. At present this is impossible in many organisations because the directories of their different departments are not integrated. The situation is comparable to that on the telephone system before direct dialling was introduced.

Both Microsoft and Novell are striving to develop their operating systems to make it easier for network managers to achieve such an integrated directory.

Novell has a clear lead in this area, with its Netware Directory Services, included in Netware 4.0 and 4.1.

Mr Lalit Nathwani, manager of Novell's UK market development group, says that NDS is well on the way to becoming the industry *de facto* standard.

NDS will be available on Unix and Windows NT as well as on Netware within two years, he says.

But despite Novell's technological lead there is a strong expectation among market analysts that Microsoft's enormous marketing power will turn Windows NT into another big success.

Microsoft hopes that the desire for a single operating system among network managers will in the end prove strong enough to push out Netware from many sites.

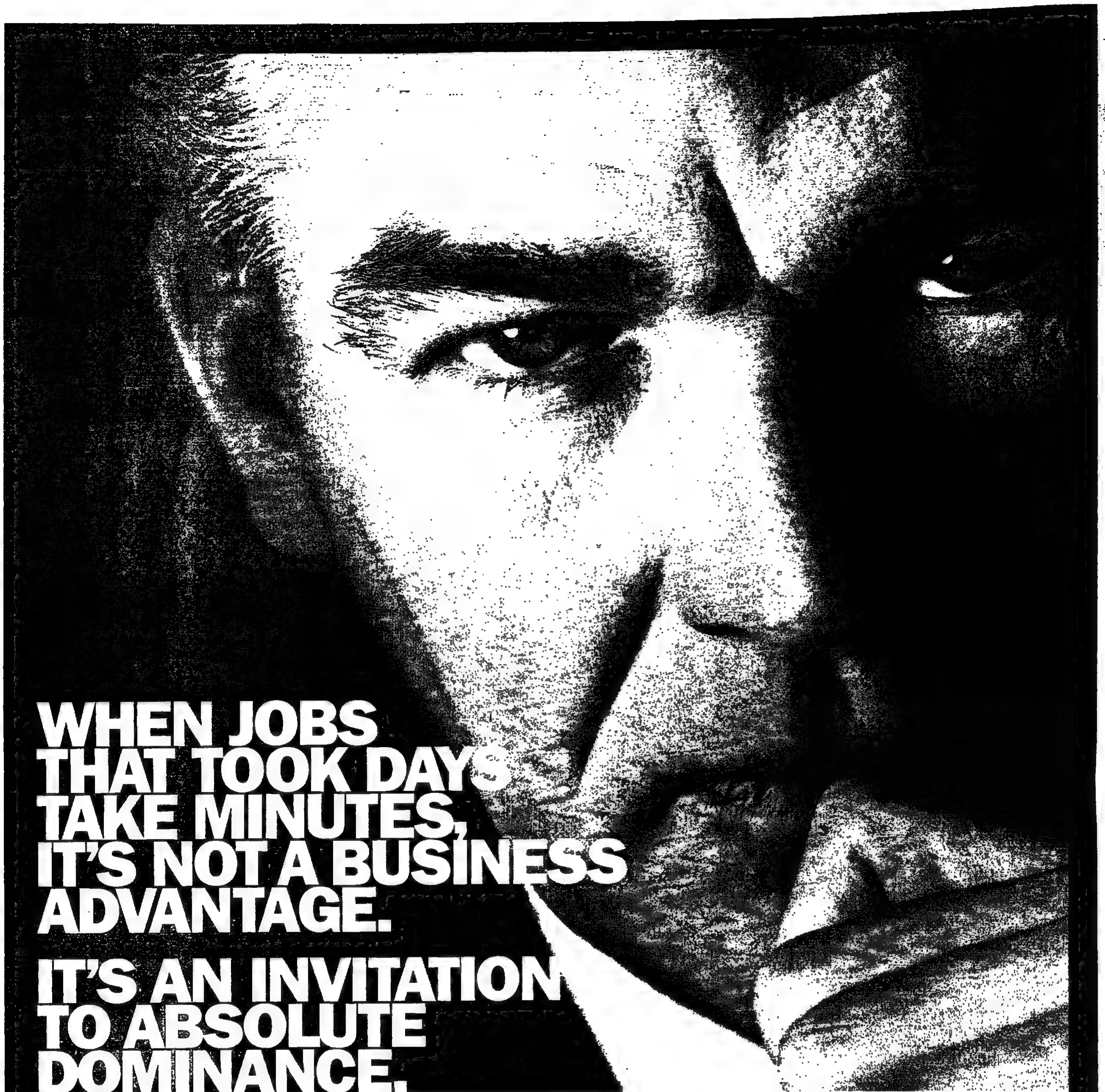
This battle looks set to run for at least another couple of years. In the middle of this year Microsoft will enhance Windows NT by adding to it the graphical user interface of Windows 95.

Microsoft is scheduled this year to let users test a new version of Windows NT, code-named Cairo. This is likely to make big enhancements to Windows NT's scope, but it will still not offer directory services to rival Novell's.

Microsoft says it cannot build a directory services product until after Cairo is finished. The question remains whether it will opt to develop such a product in-house or buy one to save time.

Novell probably has a two-year breathing space in which to build an unassailable position for Netware.

Waverly Deutsch argues that the best outcome for users to gain a more certain view of their future would be for Microsoft and Novell to reach an accommodation. Now that Novell has withdrawn from competing with Microsoft on a broad front, that might still be possible. But the odds must be against it.



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High volume printing solution: pictured in use here is the Print Centre Control Systems, PCCS, produced by Siemens Nixdorf. The system is claimed to be a world's first print and mail management system to control the production process "for zero defects and guarenteed despatch and delivery", automating the link between high-speed printer output and mailing lines

■ The printer market – By George Black

Intense competition pushes prices down

Many businesses are buying colour inkjets in preference to mono laser printers

In the past year the desktop printer market worldwide has moved sharply from monochrome to colour.

The mono inkjet sector has sagged, while the colour inkjet sector has soared. In late 1994, colour and colour-capable printers made up only a third of the inkjet market. By the end of last year, they made up around 50 per cent, according to market research.

This change has largely happened because of the fast-falling price of colour inkjets. Two years ago, a four-colour inkjet printer might have cost around £600-£700. Today, an equivalent but more powerful model costs around £300-£400. Entry-level models may cost as little as £250.

The result is that many more users are able to take advantage of attractive presentation of output from their personal computers – "users feel they have to have colour for their marketing material to stay up with their competitors," observes Julian Rutland, product development manager for manufacturer Canon UK.

Users are keen to be able to print information from the Internet in colour, according to Lucy Pedrick, market analyst with the research company Romtec.

Darren Wall, UK colour printing programme manager for manufacturer Hewlett-Packard, says colour is being increasingly adopted to make spreadsheets more readable to help hard-pressed executives.

Mono-only inkjets are no longer sold by some of the leading vendors.

It is doubtful whether the low end of the laser sector, where prices cannot fall much below £400, can sustain itself against this fierce competition from inkjets.

The laser share of the UK market fell from 27 per cent to 22 per cent between the beginning of 1994 and the end of 1995, according to Romtec's figures, while the inkjet's share rose from 54 per cent to 66 per cent.

Dot matrix printers are also losing popularity, falling from 19 per cent of the market to 11 per cent in the same period, although that decline has been less rapid than some expertspredicted.

Mono-only inkjets may cost as little as £200. But when colour is offered for only a small extra cost, fewer users see any reason to restrict themselves to one colour.

"The majority are willing the pay a bit more for colour, even if they cannot think of an immediate use for it," says Robert Clark, senior product manager for Epson.

Inkjet colour quality has improved rapidly. Two years ago the technology was generally regarded as not good enough for anything more than headlines or spot colour.

Today, with current models offering 360 dots per inch or 720 dots per inch, it is widely used for business graphics and even photographic image reproduction.

> Buyers are willing to pay more for colour printers

Once colour is available, plenty of uses soon become apparent, from birthday cards to advertising and direct mail proofs.

As users upgrade their personal computers, they will discover more uses for colour, such as printing from their CD-Rom drives.

Many large companies still prefer laser printing for superior sharpness and durability as well as for faster printing, which is important when printers are shared. Moreover, laser printer prices are relatively stable – so it is to the so-called SoHo, (Small Office, Home Office) sector which tends to prefer colour inkjets that printer vendors are looking to increase sales.

For Hewlett-Packard, long the industry leader in both inkjet and laser sectors, the changes are a mixed blessing. Whereas it could rely on the loyalty of customers in large companies, smaller businesses and home users do not have the same loyalty.

Many have no strong preference for any printer manufacturer. To them, the name of Canon is just as respected as that of Hewlett-Packard. Moreover, these users tend to be more price-conscious than larger companies.

The market has therefore started to become more open and competitive. Hewlett-Packard remains the dominant vendor. Romtec's figures show little sign that competitors have made much impact on Hewlett-Packard's share of the total market so far. That stood at 42 per cent at the start of 1994 and was only a little lower than 40 per cent through most of 1995.

But in the colour inkjet sector, Hewlet-Packard has reason to worry. Its share fell from 67 per cent in 1994 to 46 per cent in 1995, while Canon's rose from 22 per cent to 35 per cent and Epson's from 5 per cent to 10 per cent.

Intense competition may continue to push prices down, but not much further. They are already close to the cost of production and margins are very tightly squeezed. Colour lasers at around £5,000-£6,000 are still too expensive for all but a niche market. However, HP launched new models in March with lower prices for consumables.

Hewlett-Packard's Darren Wall says the high cost of ownership, due to the prices of drums and toners, has held back the colour laser market more than the purchase price of the machines themselves.

Many SoHo users want colour input as well as colour output, for example, for production of newsletters. The boom in the SoHo sector has also caused a rise in sales of scanners.

HP estimates that mobile-printer market will have grown 48 per cent between 1995 and 1996, that notebook PC sales will continue to grow at a double-digit rate until 1998, and that notebook PC shipments will account for 25 per cent of all PC shipments by that year.

Computer superstores have started to sell scanners alongside printers, though many buyers will require more training to use scanners than to use printers. As desktop scanner prices have fallen to around £450, this market sector also looks set for considerable growth.

■ Colour printers

Key issues for home printer buyers

Inkjet printers, costing $300 or less, produce colour output for less than a tenth of the cost of the cheapest colour laser printers and, in many cases, the results are more than adequate for small business and home use. Only those who need to produce pre-printing colour proofs are likely to need the kind of sharpness and detail that are provided by laser colour printers, *writes Geoffrey Wheelwright.*

The reasons for a growing interest in colour printing are not only limited to better quality and lower prices. Software, particularly packages produced for use with the Apple Macintosh and Microsoft Windows 95 operating systems, offers improved support for colour output – and easier ways of adding colour to computer-created documents. In addition, the increasing popularity of the World Wide Web service of the Internet global computer network has also caused many users to want to be able to print out the results of their web-surfing in 'living colour'.

There are a number of issues to consider for prospective printer buyers: first, find out whether the printer includes a separate cartridge for black ink. If it does not, the print will have to mix colours from the colour cartridge in order to form the colour black.

Not only does this approach fail to give you as deep a black as a dedicated black cartridge, but it also wastes a lot more ink. While dual-cartridge colour printers may cost a little more up-front, buyers will save money in the long term.

Another key consideration is the quality of print: make sure that you see output from plain paper before choosing a colour printer. Many will produce great results on the special glossy paper often used for sample copies, but they yield faded and washed-out results on plain printer paper.

Users should think about why they want colour. If users are only going to use it once in a while – but will need to do lots of black ink printing – they may save money by sacrificing the colour facility and going with a low-end laser printer. This will be cheaper to operate over the longer term, particularly for high volumes of printing.

Lots of companies want your colour printer business. HP, for example, announced printers last year that reflected a desire to mop up even more market share than it already has in the inkjet and laser printer markets. First of the new models were a couple of low-cost home printers – the HP DeskJet 600 and 600C printers for PCs and the HP DeskWriter 600 printer for Macintosh systems.

The idea was that these printers would appeals to those who did not mind spending around $300 to get something that would let them cheaply create school reports, greeting cards and other family projects – and do so in either black and white or colour.

The HP DeskJet 340 mobile printer typically sells for around $300. This machine includes support for an optional $29 add-on (which just clips onto the printers parallel port) that HP is going to be promoting heavily on all its printers, notebook computers and handheld systems.

■ Document management – By Michael Dempsey

Speeding up the workflow

Many large companies have yet to apply the technology, says new report

Swift response: in the fiercely competitive business of cross-Channel services, Brittany Ferries is taking the faster route to efficient consumer services by using a desktop document management system

Document management technology has become accepted across a large part of the financial sector. Organisations that previously needed hundreds of staff to keep track of mortgage papers or insurance proposals have turned to a combination of scanning technology and optical disk storage to cut staff costs and improve speed of response. But document management systems usually come complete with a methodology called workflow, some hefty pieces of computer hardware and costs to match.

Research by the UK Document Management Suppliers Group, a vendors' association, claims that 100,000 UK companies could benefit from the technology, but only 10,000 have installed it.

While this low market penetration promises future sales to system suppliers, it also reveals a high level of suspicion. Lack of quantifiable financial benefits within the project lifespan emerges as the single largest objection to document management schemes. With annual capital costs averaging £30,000 to £100,000, the sums involved over several years are significant for smaller companies.

Happier customers

Brittany Ferries is a significant operator in the cross-channel car, passenger and freight market. The French-owned company operates eight ferries in a fiercely competitive arena. The opening of the Channel Tunnel has intensified pressure on every player. Customer satisfaction is a serious matter. At its Plymouth headquarters, Brittany employs seven staff to deal with a large amount of correspondence. Not all of these letters are critical, and passengers do write to praise the service on some routes. But Brittany is determined to see that every comment gets fair attention.

Caroline Barlow, customer services manager at Brittany, was used to a paper-filing system that required extensive off-site storage to hold correspondence. Brittany still hires storage space, but since July 1995 that has been a diminishing requirement. Brittany spent £40,000 installing a document imaging and workflow system that is tied in to telephone call-logging. When a correspondent calls in, Ms Barlow can summon up the relevant file while talking to the customer –"it comes across as more professional. If a client calls me now, I don't have to leave my desk: there's no more going away and then having to call that person back".

This may sound like a small benefit, but for a consumer-oriented business it counts for a lot.

Brittany bought its imaging and document management facility, called ImageNow, from Hull-based Commercial Computer Applications Technology. ImageNow boasts the ability to integrate with most other scanning and storage products.

Brittany's customer services staff are running it on the same Digital PCs they used before document management was introduced. For any organisation that does not want to invest a six-figure sum, it is essential to shoehorn document management into the existing commercial applications.

A big budget approach

Velo, owned by Dresdner Bank, is an example of the big budget approach to desktop document management. Founded in the UK in 1988, Velo manages company cars and now has 50,000 vehicles on its books with clients including Woolworth, British Gas and bankers Kleinwort Benson.

Mr David Voss, managing director of Velo, describes the problem faced by his insurance unit: "Insurance activity, claims and repairs, generates a surprising amount of paper. A typical file can contain up to 50 bits of paper," he says.

Velo began operations as a paper-based organisation only to find the paper mountain growing disproportionately as clients came on board.

Continued on next page

■ Notebook computers and add-on facilities – By Geoffrey Wheelwright

Portables rival desktop PCs

Notebook add-on facilities offer useful expansion options – but they can be expensive

Is the desktop personal computer dead? Although this may seem a preposterous claim, a growing band of portable computer manufacturers are claiming that there is nothing a desktop system can do that their laptop or notebook PCs cannot equal.

They claim that with the vast capacity of their storage devices, the increased quality of their screens and the amount of memory they can offer, even the smallest notebook computers can keep pace with the power of desktop systems. And with the advent of Thin Film Transfer (TFT) flat-screen display technology, these systems can also provide colour VGA-compatible displays that are easily as good as many conventional CRT screens.

The real sticking point in designing portable systems which offer desktop power, however, has traditionally been in providing the same kinds of expansion options. Notebook computers have achieved their small size at the expense of eliminating either IBM XT or AT-compatible expansion slots from the design.

Until the early 1990s, most portable makers suggested that as the vast majority of laptop systems included facilities for an internal modem, two serial ports, one parallel port, an external video socket, keyboard connector and internal RAM sockets for expansion to 32Mb or more, users really did not need expansion slots.

But that argument did not hold when users wanted to connect the personal computer to a local area networks (Lan) – or add capabilities to allow it it use a CD-Rom drive or playback sound files and movie clips. Two strategies have evolved for dealing with this problem: the docking station and the credit card-sized PC Card (also known as PCMCIA card).

First solution

The docking station was the computer industry's first answer to the problem of notebook computer expansion. Typically, it was a device that you added onto the back of your notebook computer (or a housing into which you inserted the computer) which provided the ability to house industry-standard expansion cards, an extra floppy disk drive, an extra hard disk, tape backup drive or a CD-ROM drive.

These docking stations allowed people to use their computers on the road and, when they came back to the office, plug into a single device and immediately have access to all the facilities you would typically expect in a desktop system. But because docking stations generally had to be designed with only a single make or model of computer in mind, they never really achieved great economies of scale – and still today require that you pay a consideration premium over the price of the basic notebook computer in order to achieve this route the expansion.

This was one of the main reasons that manufacturers subsequently united in the design of what is now known as the standard PC Card – and why most leading makes of modern notebook computers can accomodate two PC Cards.

The PC Card standard was developed by the Personal Computer Memory Card International Association (PCMCIA). The PCMCIA expansion slot is basically a 68-pin tiny replica of the AT expansion bus used in most desktop computers.

PCMCIA was formed in 1989 as a non-profit trade association aimed at establishing a worldwide memory card standard for the PC industry. The standard defines the size, pin assignments, electrical requirements, protocols and file formats of credit card-sized PCMCIA add-on cards. More than 130 manufacturers, semiconductor companies, software suppliers and systems integrators have joined the PCMCIA since its establishment.

The list of PCMCIA members is impressive. Leading names on the group's executive membership list include Fujitsu, Intel, IBM, Microsoft, Mitsubishi, Phoenix Technologies, Polariod, Sharp, Texas Instruments, Toshiba and Zenith.

Other well-known associate and affiliate members include AMD, AST, Apple, Award, Citizen, Compaq, Connor Peripherals, Dell, Epson, Hayes Microcomputer Products, HP, Maxell, Micron Technology, Mitac, Motorola, National Semiconductor and Samsung. Although having names such as Microsoft, IBM and Intel on the member's list is important, it is the breadth of support the group appears to enjoy across the industry which are making it succeed where similar previous attempts have failed.

Questions

There is, however, a psychological issue that gives docking stations an edge over PC Cards for some users – particularly in corporations. Companies question the wisdom of paying several hundred dollars (typically between $100 and $500) for add-ons that bring capabilities to handheld computers that they can get much more cheaply in desktop systems. In addition, users do not like the idea of buying expensive add-ons so small they can easily be lost through a hole in a suit jacket – or even left on the bus by accident.

■ Groupware products – By Joia Shillingford

Wider opportunities for collaborative computing

The Internet is likely to change the way that co-operative computing is carried out

The distinction between groupware and other products is becoming blurred. First, because products not normally thought of as groupware are now including groupware features. And second, because groupware products are straying into other areas. Another big change is that the Internet is making co-operative computing easier.

Roger Whitehead, director of Office Futures and editor of the *Groupware* newsletter, defines groupware as "software or a system that helps people collaborate".

Mr Whitehead says products such as Dun & Bradstreet's SmartStream finance and personnel system for large companies, have good groupware built in. So, too, are computer-aided software engineering packages, which often allow shared editing.

Meanwhile, groupware products are broadening in scope. An add-on videoconferencing product is available for Lotus Notes, the text-conferencing product owned by IBM.

Improvements are also taking place among workflow products – a type of groupware designed to control the flow of work in a team. Traditionally, a supervisor could adapt the workflow software to change the flow of work between a group of users. But using ICL Teamware Flow, the group doing the work can define the flow.

This gives more flexibility and has the added benefit of creating a corporate memory. Next time, the same team (or another) needs to carry out similar work, the company can look back at how the project was organised last time. It can look at what information was involved, where it flowed, and what kind of output resulted.

This is a much richer source of corporate memory than just a copy of the finished document. Moreover, sub-processes can be altered by a regional team without affecting a central business process.

The addition of new features to groupware products means that suppliers can enter new markets and users need to buy fewer products.

"Lotus Notes is the king of the groupware market," according to Mr Whitehead. "But Microsoft Exchange, a rival product, should be out around end-March this year." He says the main difference between the two products is that Lotus Notes is groupware with some e-mail, whereas Microsoft Exchange is e-mail with some groupware, *see report, right.*

The Internet, the global e-mail and information network, is likely to change the way that collaborative computing is carried out. "At the moment, the World Wide Web (WWW) area of the Internet is seen as an information distribution system," says Mr Whitehead. "But over the next few months it will become clear that it is really a distributed computing system."

Bulletin boards

Digital Equipment sells bulletin board software called WebForum that can be installed on a Web server (computer) and used to create, say, a customer focus group for a company's products. Or if Web technology is being used to link different in-house systems, WebForum could be used to create bulletin boards for staff.

It is also possible to do videoconferencing over the Net, provided that both parties have suitable software and a tiny video camera attached to their PC. *(See pages 12-13).* US-based White Pine Software sells videoconferencing software called CU-SeeMe, developed at Cornell University.

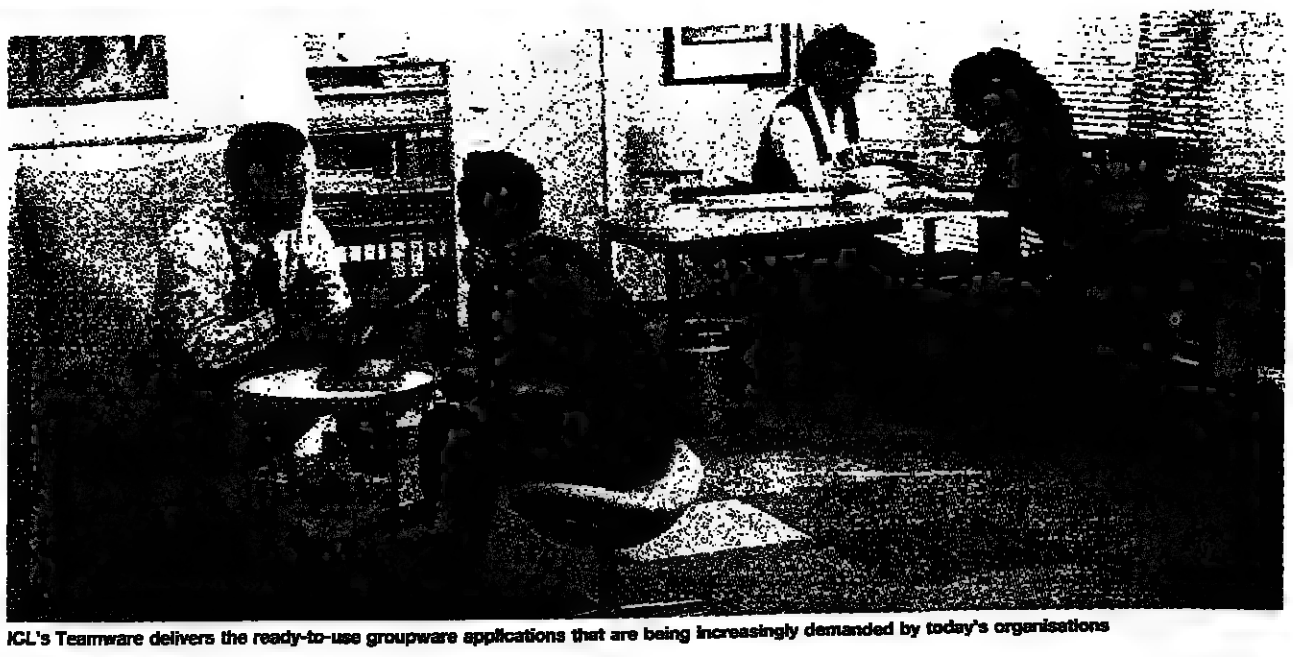
Telephony can be provided over the Net using products like RealAudio, Vocaltec or Netmanage's audioconferencing module which let you make international calls at local rates. But expect a delay of at least a second, and lower speech quality.

Dan Geisler, vice president international marketing at Netmanage, believes telephony over the Net comes into its own for business users when they want to look at a piece of work on one of their screens (using Whiteboarding software) and discuss it at the same time.

"We're also starting to see groupware on the Web, and though no-one has got workflow over the Web, that *will* come," says Mr Whitehead.

Microsoft, Lotus, IBM, Novell and others are starting to incorporate some of the capabilities of the World Wide Web into their products. And to think about how developments, such as Sun's Java programming language for the Internet – which enables users to download small task-specific applications – affect them.

By next year, if not sooner, the World Wide Web will become part of the arrangement for computing in general, says Mr Whitehead. So companies need to look at how what is happening will affect their plans for collaborative computing.



ICL's Teamware delivers the ready-to-use groupware applications that are being increasingly demanded by today's organisations

■ Groupware battleground – By Louise Kehoe in San Francisco

'Killer' program faces challenge from the Internet

Delays in the introduction of a 'production version' of Microsoft Exchange have also weakened the company's efforts to penetrate the groupware market

Two years ago, Microsoft's "Exchange" program was heralded as the "Lotus Notes Killer". The new Microsoft "groupware" would deliver a body blow to Lotus Development's competing Notes program, industry analysts predicted

Since then, the battleground has changed. Even as Microsoft edges closer to the formal launch of its Exchange server software, the so-called "killer" program faces a new market challenge from the giant Internet.

While Microsoft Exchange and Lotus Notes were originally designed to run on private netoworks, companies are increasingly adopting the standards and software of the Internet's World Wide Web for internal use on so-called "intranets". This trend threatens to undermine the entire market for proprietary groupware.

In another significant development since Microsoft began to promote its Exchange software, Lotus Development has been acquired by International Business Machines and is now operating as an IBM subsidiary, making it a potentially more formidable rival.

Long delays in the introduction of a "production version" of Microsoft Exchange have also weakened the company's efforts to penetrate the groupware market.

Microsoft continues, however, to promote Exchange. The program has been deployed by more than 40,000 customers in government, corporations and educational institutions, Microsoft announced last month. This compares to about 4.5m users of Lotus Notes.

Exchange, like Lotus Notes, incorporates electronic mail and built-in groupware to enable workers to schedule meetings, create discussion groups and share documents over a computer network as well as viewing and sharing information stored in public "folders".

Microsoft has, however, modified its original ambitions for Exchange. Today, company officials stress its messaging capabilities, but acknowledge that World Wide Web software provides superior features when it comes to "publishing" or distributing documents on a computer network.

Lotus, similarly , is "repositioning" Notes as a complimentary technology to the Internet – which now appears to represent a far more formidable threat than Microsoft Exchange.

"Lotus Notes today is part and parcel of the World Wide Web," said Mike Zisman, Lotus' executive vice president.

> Microsoft has modified its ambitions for Exchange

"Our Notes client has a fully integrated Web browser. The Notes server today can be accessed by Web browsers."

In recent public appearances, Bill Gates, Microsoft chairman, has similarly tried to stress the compatibility of Microsoft Exchange with the Internet. In contrast to the fighting talk of Microsoft executives two years ago, the company is now stressing how well Exchange will fit with corporate use of the Internet and intranets – internal networks based on Internet standards.

Threatening both Lotus Notes and Microsoft Exchange, as well as Novell's GroupWise program and other groupware competitors, are the latest developments from Netscape and others in the Internet software arena.

Netscape is developing software that will add features to its Internet browser that enhance Internet electronic messaging with tracking and management features.

Netscape Navigator 4.0, code named Dogbert, and scheduled for introduction before the end of this year, will incorporate collaborative and messaging technology from Collabra Software, acquired by Netscape last autumn, Marc Andreessen, co-founder and chief technology officer for Netscape, announced at the company's recent developers conference in San Francisco..

Whether Netscape can deliver on these and several other ambitious promises on time is yet to be seen, but the challenge for Microsoft with Exchange is no longer to "kill" Lotus Notes, but instead to carve out a role in a market that has been redefined by the popularity of the Internet.

The Internet is likely to change the way that collaborative computing is carried out. As system costs fall, a growing number of PC-makers have announced plans to launch models already equipped with a digital camera, *microphone*, and video-conferencing software – launching a trend that could lead to videoconferencing becoming a standard feature on desktop PCs, perhaps as soon as the end of the decade. Pictured here is a desktop system from PictureTel, leaders in the videoconferencing systems sector. See also pages 12 and 13 for reports on advances in videoconferencing

Workflow system cuts costs

Continued from previous page:

Two years ago, Mr Voss took a decision to position Velo ahead of rivals. Velo invested £1m in a wide-ranging document-imaging and workflow management system from Wang. Office automation was the business that made the Wang name, but failure to keep pace with the market saw mounting losses and Chapter 11 bankruptcy protection.

Now Wang is out of Chapter 11, back in profit with revenues of $946m, and concentrating on document management software and systems.

The UK software house, Relational Database, assisted Wang with the Velo project: each business process was allocated to a line of workflow. Velo identified 29 different processes, such as the activity in its engineering department – "we employ engineers," says Mr Voss, "but not for their keyboard skills".

These staff keep a close eye on the progress and cost of repairs to Velo-managed cars. Velo uses 75 approved garages, with a PC at every site, networked into its Buckinghamshire head office. Mechanics take a video of the damage in question, then Wang software converts this moving image into stills that are sent down the line to Velo.

The company's engineers can see up to eight different views of the area under repair and thus judge whether the garage's estimated bill is appropriate.

Of 85 staff in Velo's insurance operations, 70 have access to the document management system. The £1m price tag marks a substantial purchase for Velo, but Mr Voss has no trouble justifying it: "For a company of our sort, that's not a small price. But the investment will differentiate us from our competitors."

The precise payback period will depend on how fast Velo grows, but Mr Voss reckons this project will have paid for itself within two years. Productivity, which he says has increased by 25 per cent since the Wang system was installed, is his prime target: "We're looking to get into the next league without having to hire hordes of people," he says.

Brittany Ferries and Velo illustrate two ends of the scale in document management projects. But both companies adopted this technology for the same reason. It has given a big boost to the ability of individual employees to deal with the customer. Many companies in service industries will have to follow their example or face losing out to rivals who can project an efficient image.

■ Voice recognition – By Joia Shillingford

Talking to your PC is not as crazy as it sounds

'In the next millennium, we will find that we are talking as much – or more – with machines than we are with humans'

People already shout at their personal computers, so why not talk to them, too? It's becoming easier and cheaper to do as voice recognition suppliers launch new products.

There are several reasons why you might talk to your PC. For example:

- ☐ You cannot touch type.
- ☐ You would like to dictate straight to your screen.
- ☐ You want shortcuts for Windows commands.
- ☐ You are disabled or have RSI (repetitive strain injury) and cannot use a keyboard

What's available?

Well-known voice-recognition packages for PCs include Kurzweil Voice, DragonDictate, IBM's VoiceType and Philips' Continuous Speech. Kolvox is also a value-added reseller for a number of voice products.

All the above let you dictate text into Windows-based word-processors via a microphone. The main proviso is that users must speak more slowly than usual and leave a pause between each word. Jody de Falbe of value-added reseller Responsive Systems says some suppliers claim their products can operate at 75 words a minute.

But in reality it is hard to dictate at more than 60 words a minute without feeling like a machine. Or making mistakes in the composition.

Most voice recognition products can be trained to understand a particular user better.

Nicholas Negroponte: 'the miniaturisation of computers is driving the trend towards speech production and recognition'

If you say a word and it isn't recognised, you simply select the correct one from a list of alternatives (such as a spell-checker). Or type it in.

According to London-based Responsive, systems such as IBM's and Philips' have limited vocabularies (IBM's has 32,000 words) and limited scope for adding new words, (IBM has room for 2,000).

"They are best viewed as niche products, which are very good at replacing a dictaphone," says Robin Cameron, product development director, Responsive.

Kurzweil Voice and DragonDictate have larger vocabularies and large active memories. Kurzweil has a vocabulary of 200,000 words, including many specialist medical and business terms.

You can add 30,000 of your own words as with DragonDictate. Kurzweil also has an active vocabulary of 30,000-60,000, depending on how much RAM (random access memory) on your PC. The active vocabulary is the amount of words which can be checked against what you say in real-time.

DragonDictate for Windows has a vocabulary of 120,000 words. It also has a grid feature, which enables user to give instructions as to where they would like the cursor to appear on the screen. It is rather fiddly, but one of the few alternatives to a computer mouse for people with no hands.

A very user-friendly version of DragonDictate, PowerSecretary is available for the Apple Macintosh from US-based Articulate Systems.

Kurzweil Voice costs £825 from Responsive (the UK and European distributor) and requires at least a 486-based PC with 16 megabytes of RAM. Included in the price is a combined sound card and fax/modem, and a headset microphone. Responsive has also created TalkCommands, a set of plain English commands that can operate the most popular Windows software, such as Word and Excel.

This enables a user to say "blue word" in Microsoft Word if he/she wants to highlight a word in blue, rather than click on the Format menu, and select Font, then Colour, then Blue. And then remember to switch off Blue afterwards.

Not only is this easier than knowing all the individual commands, it is also faster because cumbersome clicks of the mouse are not required. Another feature allows user to guide the cursor by voice.

User perception

Voice "macros" (or shortcuts) can also be set up within some voice packages to carry out common tasks, such as calling up a standard letter.

"There is a lot of confusion about voice recognition," says Jody de Falbe. "People's expectations are either far too high and they want to be able to talk naturally to their PC.

"Alternatively, expectations are far too low and they expect far more errors and a much slower rate of input."

She says it took her about three months to get used to dictating copy to her computer. At first, she was quite disappointed with the speed and found it more difficult to compose verbally. But she stuck with it, because she had repetitive strain injury, RSI – as a full-time journalist – four years ago and can now compose text as quickly as before.

Types of user

Other users of voice recognition software include some of the staff at British Telecom and Glaxo Wellcome, the pharmaceutical company. At Mark & Co., a firm of London-based lawyers, there is wide use of Kurzweil Voice. The staff started using voice recognition at the same time as they computerised office procedures, and feel that voice operation made it easier for them to get to grips with computers.

Speech recognition is also used by barrister Robert McGinty. He says: "When writing long opinions, it is useful to be able to go back and alter or insert sentences many paragraphs back, which cannot be done easily with a dictation machine."

At international furniture importers, LayTrad, voice-operated short-cuts save time and enable the company to achieve more with a small staff.

"There is a large untapped market for voice recognition software," according to Mr Cameron. He expects a number of factors to fuel demand in this area. First, the cost of equipping a PC for voice is falling as more and more of the computers sold have large amounts of random access memory, Ram, (for using Windows 95 software), and built-in sound cards. A new version of Kurzweil will work with any standard (SoundBlaster compatible) sound card, as DragonDictate already does.

Second, voice recognition software is steadily improving. For example, Responsive will be selling the Abbott continuous speech recognition engine, developed by Cambridge University's engineering department, in the third-quarter of this year.

Both IBM and US-based Inference sell speech-recognition software from Massachusetts-based Bolt Beranek and Newman (BBN) built into other applications. For example, at the Voice '95 show, IBM demonstrated an automated pizza-ordering service. Inference will be working with BBN on using speech-recognition in customer service.

Prospects

Whether we like it or not, "in the next millennium, we will find that we are talking as much – or more – with machines than we are with humans," predicts Nicholas Negroponte, director of the MIT's Media Lab and author of *Being Digital*.

He believes that the miniaturisation of computers will drive this trend. Speech production and recognition will be "the dominant human-computer interface with small objects . . . the point is that being small begs for voice".

■ Virus protection – By Michael Dempsey

High level of anxiety over security measures

Adequate IT security against computer viruses and hackers is now regarded as a measure of wider corporate competence

The US National Computer Security Association estimates that $2.7bn was lost to computer-virus infection in the US in 1994. The figure for the previous year was $1.4bn.

Is there a plague of malicious programmers out to undermine corporate productivity by introducing time-consuming bugs into company networks?

In a recent security survey, the US computer services giant, CSC, polled 286 senior IT executives from large and predominantly US companies. It confirmed a high level of anxiety about computer security threats. Of those polled, 93 per cent were concerned about the adequacy of their corporation's security measures.

The nature of the threat is manifold: hackers and viruses were common fears, but 77 per cent of survey respondents said they felt threatened by the prospect of negative publicity emanating from a computer-related loss. In other words, adequate IT security is now regarded as a measure of wider corporate competence. This should serve to alert European IT managers to the significance of secure data systems.

In the US, security is clearly coming under scrutiny from main board members. Bill Martorelli of CSC's management consultancy arm, believes there is one reason why security threats are growing exponentially.

"The whole IT environment is becoming networked," he says. "The fact is that network connections to the desktop are growing so rapidly that viruses are a persistent hazard."

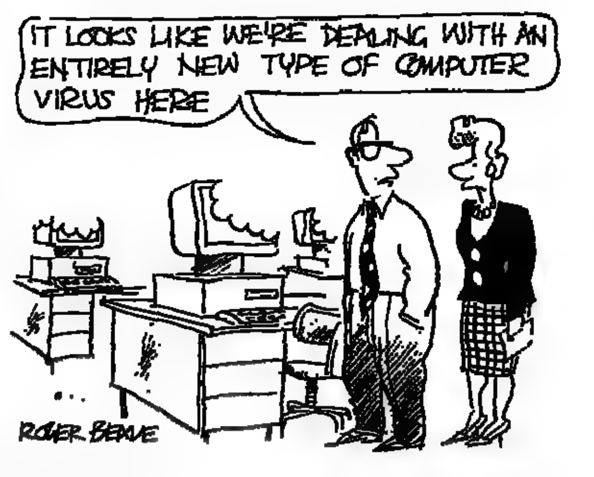
Mr Martorelli does not have a magic prescription for securing systems. Despite its much-publicised security shortcomings, he praises the Internet – "but only if it's used in a highly controlled manner".

He adds: "It's all very well to talk about the Internet for communication between businesses. We believe the real explosion in Internet-usage is as an internal communications system."

The key to exploiting the Internet is to deploy it within the corporation as a cheap alternative to the family of software programs known as workgroup products, he says.

External access to the local Internet can then be guarded by security software that bars unauthorised access.

Known generically as "firewall programs", these sit outside the individual desktop site but block the point of entry for anyone beyond the corporate body.



Software solution

UK-based Reflex Magnetics is a £4.5m company that sells Disknet, a computer security program that scans software as it is loaded on to a desktop PC. Disknet will not allow the system to run a program if it shows signs of unauthorised additions to its code. Disknet prices start at £185 a copy, with the unit cost dropping to around £25 for large sites. Phillip Benge, marketing director at Reflex, is confident about his product – "no Reflex client has been infected with a virus since installing Disknet". The US Department of Defense lists 2,000 known computer viruses, he says.

During Operation Desert Shield, the deployment of allied forces prior to the Gulf War, 5,000 US military desktop PCs were shut down after a virus was unintentionally introduced to them. This incident prompted the military to address the potential threat from deliberate virus infection by hostile forces. The idea of the computer virus as military ordnance had moved out of the realm of science fiction and into the teaching of tactics. Two captains at the US Air Force Institute of Technology carried out detailed research into the validity of anti-virus software, published under the ominous title *A False Sense Of Security*.

USAF captains Pedrone and Ziese maintain that it is difficult for anti-virus products to keep up with the proliferation of new virus programs. Some accepted methods for assessing the effectiveness of virus blocking systems are seriously flawed.

Pedrone and Ziese say that, in some cases, products labelled as 95 per cent effective are only 60 per cent effective, leading to a misplaced sense of security "by making blanket effectiveness claims in the absence of scientific data to support the claim".

Pedrone and Ziese come down in favour of a quarantine approach that keeps potentially infected programs at bay while subjecting them to a battery of checks.

The multiple security shield approach adopted by Reflex Magnetics' Disknet is recommended by the US duo as a method of excluding viruses, courtesy of its system manager approach, sitting on top of a local network of PCs and supervising a number of security utilities. Disknet, they say, is "the security system enforcer, freeing network managers from the worry about whether their anti-virus solution is being used consistently and correctly".

The USAF is secretive about data security measures, but with this kind of endorsement from its own investigators it is a fair assumption that it is now using Disknet in order to prevent a repeat of the Desert Shield incident.

The virus crisis is urgent. Both Microsoft and Lotus have inadvertently shipped viruses inside package products. The Microsoft Windows 95 Compatibility to V4.0 CD and its Office 95 Business Guide contained a bug known as the Winword Concept Virus. Lotus has shipped the Green Stripe Virus on its Ami Pro V3.0 Doc file.

The USAF study makes plain that it is no use throwing security products at corporate users and expecting them to implement a rigorous regime of file-checking. Putting software in place that manages this activity is one way to override the natural human tendency to become lax on security.

■ Software operating systems – By Philip Manchester

An endless tug-of-war on the desktop

While Microsoft might have won the first big battle in this arena, the shift to Internet-based systems – both for global communications and for internal 'Intranet' systems – could prove to be the biggest threat to the software company's dominance on the desktop

It might seem that the long-running battle for control of the desktop operating system market is over. After a sustained effort from big industry players – IBM with its OS/2 operating system and AT&T/Novell with Unix – Microsoft has, apparently, emerged as the dominant supplier. Versions of its Windows package are now reckoned to be running on as many as 100m desktops world-wide and the number continues to grow daily.

But the rapid rise of Internet-based communications poses a threat to the conventional desktop PC. Talk of low-cost, Internet-based 'network computers' which need no operating system, for example, could mean that Microsoft's victory on the desktop is shortlived. And, as its installed base continues to grow, Microsoft could be in danger of competing with itself by selling two products into the same market.

Dominance in any sector of the computer software market brings significant commercial advantages. Operating system environments like Microsoft's Windows are the heart of the desktop computer. They dictate which applications can be used, they control the presentation of data on the screen and manage the tedious 'background' processing. Control over operating systems development, therefore, is the key to dominating not only the desktop systems market, but also the applications market and the forward direction of the multi-billion dollar world software industry.

Bill Gates: enjoying the fruits of a well-played strategy with Windows 95, but there could be conflict over Windows NT applications

Microsoft currently enjoys the fruits of a well-played strategy to "see everyone else off" the PC desktop. Since it launched Windows 3 in 1989, Microsoft has pushed relentlessly forward with its own agenda and the success of Windows has put it in an excellent position to dictate the pace of change. It has a technology advantage in knowing how the environment will develop and it has a commercial advantage in being able to gear development of its other products to operating system developments.

"If you just take the commercial desktop, then the battle was won by Microsoft some time ago," notes Mr John Saw, UK technology manager at computer manufacturer Hewlett Packard (HP). "There is still a bastion of Unix desktops in financial trading and some action in the technical and computer-aided design (CAD) markets. But the commercial desktop is Microsoft Windows."

Other suppliers agree – "the battle for the desktop is over and Microsoft won. In my view, IBM's OS/2 is a dead-end product and Unix is specialised," says Mr Mark Ossel, director of marketing at Unisys in the Netherlands.

"The main battle these days is between Microsoft products. You can already see a difference between end-users with their personal productivity tools and corporate networked systems. If there is a battle now, it is between Windows 95 and Windows NT," he says.

Mr Saw of HP notes that the Unix desktop market is still growing. But it does not have the high profile of Windows NT.

"Unix is pushing out more expensive options and is still worth $700m a year. Growth is about five per cent a year. But NT is seen as the stronger product in the market. Digital is pushing it hard on its Alpha systems and applications are being moved to NT. We are seeing companies moving through conceptual design to market testing."

Mr Saw goes on to say that the appeal of Windows NT for some desktop applications lies in its improved graphics capabilities – a factor which is helping it to catch up with Unix in the CAD market.

"The new generation of NT graphics capabilities are not up to the high-end of Unix. But it is cost-effective and a lot of developers are moving their products across."

This could cause some internal conflict at Microsoft. Microsoft promotes Windows 95 as the prime desktop environment. The earlier – and more mature – Windows NT is aimed at a more specialist role as a 'server' operating environment. But its greater maturity has also given Windows NT a role on the desktop – especially as take-up of Windows 95 has not yet lived up to Microsoft's initial expectations.

"While everyone wants to move to Windows 95, the shift has been slower than Microsoft anticipated. It requires a large investment in new hardware and a lot of companies are seeing a move to Windows 95 going hand-in-hand with a hardware upgrade – and it takes them longer to justify the expenditure," says Mr Ossel of Unisys.

The emergence of Windows NT is not, however, based on its success on the desktop. It was originally brought to the market to give Microsoft an opportunity to break into the 'enterprise computing' market. Microsoft sought to open up a new battlefront with Windows NT to gain a foothold in the corporate server market. Modern computer networks are a hybrid of desktop computers – or 'clients' – and back-end processing computers called 'servers'.

Servers manage large databases, electronic mail and messaging systems, communications 'gateways' and, recently, Internet-based communications.

The shift to Internet-based systems – both for global communications and for internal 'intranet' systems – could prove to be the biggest threat to Microsoft's dominance of the desktop. Intranet systems use the simple concept of Internet based communications as the basis for secure internal systems.

Advocates of this approach – including big US suppliers such as Sun Microsystems and Oracle – argue that most users do not need the power of Windows NT or UNIX on the desktop.

The simpler model of a desktop Internet 'browser' program – such as Netscape's Navigator or Sun's Hot Java – connected to a powerful server computer certainly has appeal. Indeed, Microsoft itself has belatedly moved into this market with Internet extensions to the Windows operating environment. There is, however, a healthy level of scepticism over the long-term success of this approach. Mr Saw of HP is not convinced the idea will appeal to current desktop PC users.

"We made a foray into the market for diskless PCs. Although we were not taking the power away from the desktop, users still believed they needed floppy disks and local hard disk storage. It was not successful."

While Microsoft might have won the first battle for the desktop, the war looks set to run well into the next century.

Prospects for the Intranet: see Paul Taylor's report on page one of this Review

Hello, Helsinki: London staff at ICL, the computer company, in a business meeting with colleagues in Helsinki, Finland. ICL's use of wide-band videoconferencing saves thousands of pounds a year in staff time and travel

■ A renewed market – By Paul Taylor

As costs fall, corporate interest rises rapidly

Videoconferencing cuts travel budgets and saves time spent in company meetings

Videoconferencing systems have been around for more than a decade, but have traditionally been based around costly proprietary technology and offered only limited benefits. As a result, their use has largely been confined to large multinational companies and niche markets.

Recently, however, agreement on international standards, tumbling prices and the wider availability of high-speed digital telecom links have helped fuel a surge of interest in corporate videoconferencing. Sales, particularly for systems based on desktop personal computers and computer networks, have been growing rapidly.

The worldwide market for visual communications is estimated to be worth about $500m a year at present, but Gartner Group, the market research firm, suggests it will grow to around $7.5bn by the end of 1997. "The market is ramping up very fast," says Steve Gandy of British Telecommunications. Last year, he adds, the market grew by about 60 per cent in volume terms.

This strong growth reflects a number of key developments. In particular the 'interoperability wars' appear to be over. All the main video-conferencing system vendors including PictureTel, Vtel and Compression Labs now support the International Telecommunications Union's H.320 videoconferencing standard and are moving towards acceptance of the T.120 series of standards for data-sharing.

"Conferencing has finally shaken free of the constraints imposed by proprietary solutions which mean that communications were only possible between products from the same vendor," noted the organisers of a recent conference in London on desktop conferencing and the virtual office.

Along with interoperability has come affordability. The move to standardised systems has brought economies of scale. Prices of top-end studio systems have fallen to around $30,000 while the cost of entry for plug-in desktop conferencing has broken through the $2,000 level.

In addition, by providing document-sharing and whiteboarding functions, videoconferencing is addressing the growing business demand for collaborative computing as well as enabling users to see and hear their partners, no matter where they are.

Finally, the telecom bandwidth constraints in local and wide area networks which, along with interoperability issues, had held back the more widespread adoption of video telephony, are being eased by the growth of ISDN and other high capacity digital links in Europe and the US.

Among the early adopters of video telephony have been law firms, publishers, the health sector and design agencies. Tele-medicine, in particular, is catching on around the world, particularly in the US, where doctors are making remote diagnoses of patients through mainly PC-based videoconferencing networks.

However, many of the big multinationals operating in global markets have been the most enthusiastic advocates of videoconferencing. Among the companies already making widespread use of videoconferencing are SmithKline Beecham which uses its own transatlantic video links to bridge the gap between UK and US head offices, and facilitate its research and development activities.

"Videoconferencing has become a routine communication tool in co-ordinating international R&D activities," says George Poste, the group's R&D chairman. "It is now commonplace for teams at multiple sites to get together to address issues with both speed and efficiency while being spared the physical and emotional demands of constant travel.

"Modern conferencing allows full graphics and multimedia displays and the emerging use of video links between personal computers promises to further expand applications in day-to-day use."

Similarly, Bay Networks, the internetworking group formed out of the 1994 merger of Synoptics and Wellfleet Communications uses videoconferencing to link its corporate offices.

EDS, the IT professional services group, is also an enthusiastic user of videoconferencing and estimates that the technology saves it $3m in travel costs in 1994.

In the UK, big video telephony users include International Distillers & Vintners, part of Grand Metropolitan, and TSB. A survey involving 200 of the UK's top companies published by Creative Labs in November, showed that nine per cent were already using videoconferencing, 70 per cent said they would evaluate videoconferencing products over the next 12 months and more than half said they plan to implement at least one videoconferencing-based project by 1997.

More than half saw the technology as a means to cut travel budgets and time spent in meetings and said they plan to install units across multiple sites, both in the UK and overseas while 12 per cent saw video conferencing as a way to improve internal communications.

However, teleworking emerged as a primary videoconferencing driver, while co-operative working was seen as a more important benefit than face-to-face communications – confirming other studies which suggest that, once established, it is the ability to share data on screen which is main advantage of video telephony.

Forecasts

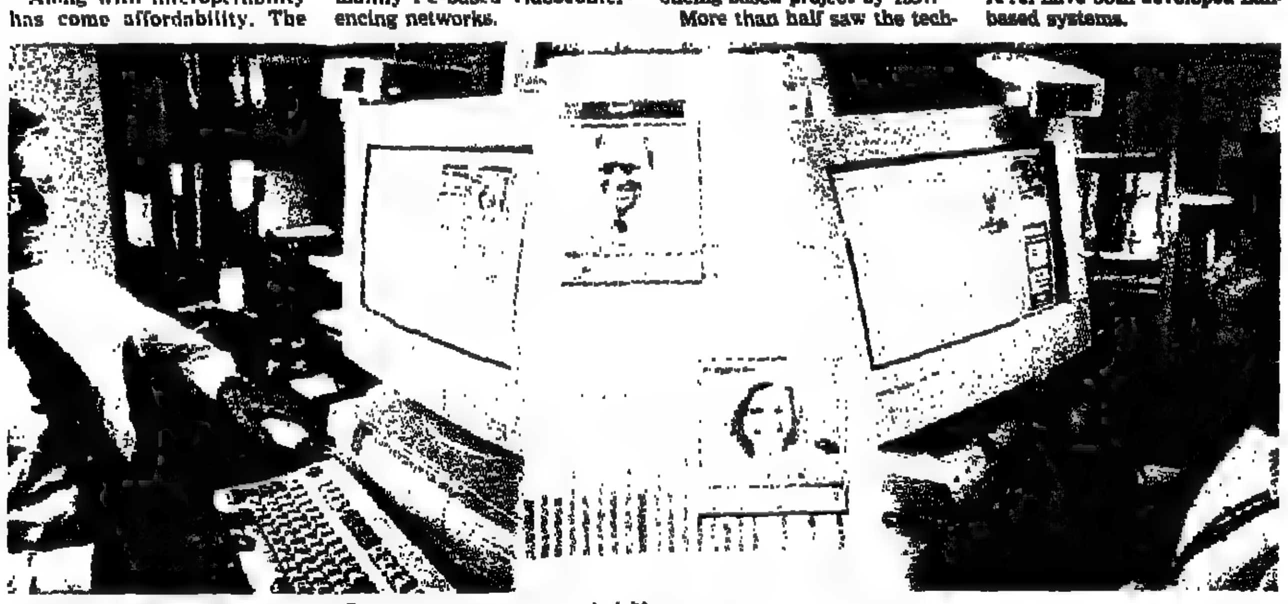
While sales of larger, room-based videoconference systems are thriving, it is personal videoconferencing, based around PCs, which has rekindled interest in the market. Gartner estimates that sales of these personal systems will be 90,000 this year rising to 180,000 next year and 350,000 in [illegible].

There are two basic approaches to desktop videoconferencing: plug-in cards or software only systems. Plug-in processing power, advocated by suppliers such as PictureTel, Compression Labs and GPT, has the upper hand at the moment. But Intel argues that the future lies in software-only videoconferencing, such as its low-cost ProShare system (illustrated below) which rely on the growing power of the current generation of microprocessors.

Other new developments include local area network-based systems which enable PC-users to make and receive video calls and share and exchange data not only with other users on the same site, but also with any other H.320-compliant system using an ISDN gateway. Intel and PictureTel have both developed Lan-based systems.

FT IT Directions

New technology makes personal videoconferencing affordable



Personal videoconferencing with Intel's Proshare system – see report, right

■ Larger videoconference and 'rollabout' systems – By Tom Foremski

Room-based systems offer substantial benefits

When it comes to videoconferencing, nothing beats a permanent room-based installation set up with microphones, a large screen and special lighting

'Virtual workgroups' meet across thousands of miles: company staff in the UK discuss projects with colleagues in the US, using the 'Focus' videnconference system from GPT Communication Systems

While desktop videoconferencing is fine for some applications, the small picture size and the jerky quality of PC-based videoconferencing, is a very poor substitute for face to face meetings – which is the whole point of videoconferencing in the first place.

Room-based videoconference centres provide the large screen images that show subtle communications clues contained in body language, all of which helps to get a message across. These systems are also essential when groups of executives are assembled for a meeting.

"Companies that install room-sized videoconferencing systems quickly realise the benefits of such systems in terms of saving on travel costs and being able to arrange meetings more quickly," says David Rowe, managing director of UK based Internet Videocommunications. "If you can set up a series of meetings more quickly, then there is a competitive advantage for the company in terms of quicker decision-making."

Room-based videoconferencing systems are much more expensive than PC-based videoconferencing. An installation can cost about £40,000 ($61,000) for the equipment, acoustic panels, microphones and special lighting. But for many companies, the cost is a worthwhile investment and an increasingly important part of doing business.

Many companies not only use videoconferencing to communicate between locations within their own company but also with other companies, and with suppliers and customers. The widespread adoption of the H.320 communications standard by all the leading videoconferencing systems companies, now means that users of different systems can talk with each other without running into compatibility problems.

Previously, the various vendors tried to establish their own standards and most videoconferencing systems were incompatible with systems from other manufacturers.

Room-based videoconferencing systems can also connect with PC-based videoconferencing systems, but Mr Rowe points out that the picture quality degrades to the lowest common denominator – "but that is changing as newer videoconferencing systems give users the ability to split a screen between different parties and still maintain high quality images".

Videoconferencing rollabouts are another alternative. These are videoconferencing systems that can be wheeled from room to room. But often, the quality of the image and sound is not as good as permanent installations.

An additional key feature of videoconferencing is the shared whiteboard which allows both parties to view information during the meeting and to make contributions that can be recorded and printed out for later review.

Andersen Consulting, which has offices in many countries, uses videoconferencing to link key executives in an attempt to build a virtual office environment that is not constrained by location or time. Andersen has been a pioneer of videoconferencing and has discovered ways of using it most effectively. "If you have a large group taking part in a videoconference, say, ten to 15 people you must prepare beforehand and have chairpersons at both ends to help direct the meeting," says Keith Burgess, worldwide management partner for competency practices at Andersen. "The risk is that you'll limit spontaneity in the meeting but it's important for the group to be focused."

Mr Burgess points out that for some meetings, face-to-face encounters are still the best choice. "If you have a working group, they need to meet in person several times to establish their relationships and lay the groundwork, then they can use videoconferencing for future meetings."

But no matter how good the videoconferencing systems, Burgess advises companies to look at them holistically, and to decide how they will fit into the company's operations and when and where they should be used. Although PC-based videoconferencing systems are gaining popularity, Mr Burgess believes that the technology is still experimental and that they are more like a "glorified video telephone."

Room-based videoconferencing systems use high speed telecommunications lines such as ISDN lines, to connect with each other. The more ISDN lines used, the better the image quality and the greater the number of frames per second that can be sent and received. The ideal frame rate is 30 frames per second. Fifteen frames per second is common for low-end systems but this often leads to problems in synchronising lip motion to speech and produces a distracting effect. Although ISDN lines are available in most countries, Mr Rowe points out that they are not always the same.

"There are differences in the ISDN lines of almost every country. The US, for example, uses 56 kilobit modules while the UK uses 64 kilobit modules," he says. "And there are differences between European countries, so it makes it more challenging to hook up videoconferencing networks for companies that want to link offices in different countries. You really need to know what you are doing."

Although desktop videoconferencing systems are growing in popularity, US market research firm Dataquest predicts that widespread use of desktop videoconferencing will highlight the advantages of room-based systems that allow

Continued on facing page

■ The ProShare system – By Paul Taylor

Software-only solution

Desktop videoconferencing is the most dynamic segment of a growing market fuelled in part by the expansion of PC processing power, greater 'bandwidth' to the desktop and business demand for tools which help co-operative working.

This new market has already attracted the attentions of many of the information technology industry heavyweights, including Intel, the US semiconductor maker, whose aggressive promotion of its low-cost ProShare system is helping to define the market.

"This technology will come free with every PC that is shipped by the end of the decade," predicts Nigel Grierson, director of marketing for Intel's product group in Europe. Indeed, market analysts such as Dataquest and Gartner are predicting that desktop videoconferencing will grow swiftly every year over the next few years.

To achieve this, ProShare, unlike most other videoconferencing packages, does not require additional hardware in the form of a plug-in card. Instead, Intel's ProShare family of personal conferencing products, which were launched in 1994, are software-based: Intel admits unashamedly that in pushing a software-only solution it is hoping to boost sales of its high-end microprocessors.

Lion's share

Intel claims that since ProShare's launch, it has won the lion's share of the desktop market with 160,000 users worldwide. Among ProShare blue-chip users are the Swiss Co-Op bank which used ProShare to create personal conferencing kiosks, and BMW, the German auto maker which is using the technology to speed-up and improve the design process with supplier of components.

"Traditional forms of communication, such as telephone and facsimile, can no longer support the level of co-operation we need to achieve," explains Mr Erns Schindler, responsible for developing PC strategies at BMW.

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■ Video technology – By Tom Foremski

Race to improve picture quality

Low-cost digital cameras on desktop personal computers will eventually become a standard feature

The development of cheap digital camera technology is one of the reasons that desktop videoconferencing has become so popular and more affordable, but it also needs the support of improved data compression technologies and higher bandwidths to improve the quality of videoconferencing.

Digital cameras have become so inexpensive that they will become standard on most desktop and even portable computers. Already, PC users can buy digital cameras such as Connectix's QuickCam for as little as $100. Add some videoconferencing software and a network connection and it is possible to set up video links with colleagues for under $200 per user.

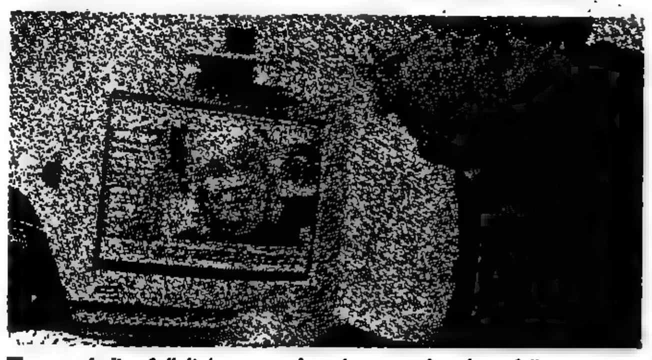
Although the resolution of these small digital cameras is not great, the quality will improve as new chips are developed. The QuickCam, for example, offers a 320 by 240 pixel window and is easily mounted on top of a computer monitor.

The ability of a digital camera to display a clear, high resolution image, is only a small part of the challenge in creating effective videoconferencing. The biggest obstacle to better images is the bandwidth of the communications line: how much data per second it can carry. This determines the overall quality of the video images and this is as true for the low end desktop video systems as it is for the more expensive room-based systems.

If you consider what an ideal image and frame rate would be, the scale of the problem becomes quickly apparent. Using a full-screen image at a good resolution, which would be 640 by 480 pixels, and displaying the image in 24-bit color which allows you to see millions of colors, and transmitting that image at 30 frames per second which is the ideal rate for natural lip to speech sequencing, would require moving data at more than 200 megabytes per second.

This is a very high bandwidth rate that might be possible on a company's internal network but impossible over phone or ISDN lines. An ISDN line, for example, handles data in 64 or 56 kilobit per second rates. Although it is possible to use multiple ISDN lines, clearly the low bandwidth means that sacrifices in picture quality must be made. Even on a company's internal network, trying to videoconference at such a high bandwidth would overwhelm the network and bring network performance to a crawl.

To lower the bandwidth burden, video systems often limit the number of frames per second to 15, which can still provide reasonable, if jerky, videoconferencing. Video frame rates under 15 per second are barely watchable and many



The popularity of digital cameras has risen as prices have fallen

low end desktop videoconferencing systems offer just five to seven frames per second.

Colour information can also be reduced to a more manageable 8 bit colour, which again, reduces the amount of data that has to be carried. And audio information can also be reduced, telephone quality rather than being sampled at higher quality data rates.

Another way to make use of a narrow bandwidth is to compress the data before sending it and then decompress it at the other end. However, compressing and decompressing video and audio data almost always leads to some degradation compared with the original. A general rule of thumb is that the more a video or audio file is compressed, the more its resolution will suffer.

There are two approaches to data compression. One approach is to perform the compression and decompression in software, and the other is to use special chips. The software based approach means lower costs since software is easier to produce and distribute but its not as fast as the hardware based approach. The hardware based compression adds to the expense of the system but offers better performance and quality.

However, as microprocessors become more powerful, it makes more sense to use software based compression. For example, Intel and Microsoft are working on new technologies that will allow Intel microprocessor based PCs to compress. and decompress video and audio images at rates as fast as low end hardware based solutions. Microsoft is building the technology into future versions of its Windows 95 operating system which will offer improved support for desktop videoconferencing. And Apple Computer offers its QuickTime Videoconferencing system which uses software-based QuickTime to compress and decompress video and audio data. So, although hardware-based compression is faster and better than software compression for now, by the end of this year, software-based compression and decompression will have caught up to the low-end of the hardware-based solutions.

But despite the improved ability of general purpose PCs to compress video and audio images using software, there are several companies developing special multimedia co-processor chips that may become standard in future PCs and greatly improve their video and audio functions.

If the chips can be made cheap enough, and PC makers begin to use them as standard components in PC systems, it may be possible to create good quality desktop videoconferencing over standard telephone lines. When *that* happens, desktop videoconferencing will become a daily experience for most PC users and a great boon for telecommuters.

Launched this year: British Telecom's VS3 Visual Communications system, above, costs £27,000 for a double monitor version. BT aims for "a solutions-based, not a product-based approach" to an expanding market

Rising demand for desktop systems

Continued from facing page

groups of people to communicate.

In a market study of 200 large US corporations released last year, Bruce Ryon, senior industry analyst at Dataquest, reports that, "business users are telling us that the true need for conferencing systems, group-to-group meetings, is served by the best technology available: room and rollabout videoconferencing systems. Desktop systems, while lacking in quality and capability, do have a role to play as multipoint add-ons to group conferences."

Mr Ryon points out that the greater availability of desktop videoconferencing products is helping to drive the demand for the larger systems as companies discover the benefits of the technology.

But companies need not have to go to the expense of building their own room-based videoconferencing systems. In the US and the UK, for example, there are videoconferencing rooms that can be hired by the hour.

AT&T's Global Business Video Services, for example, has more than 500 publicly available videoconference rooms across the US and plans to add more. AT&T has linked them with high-speed fibre optic communications lines that can carry high-resolution video images.

■ Statistics and modelling packages – By George Black

How to make sense of the numbers

For many businesses, statistical analysis is one of the most obvious ways to understand market trends, to minimise risks and maximise opportunities

Statistics and modelling may sound like specialist subjects in which senior managers do not need to be much interested.

But these days they are functions which affect the core activities of a business. The choice of computer systems to control their operation is therefore by no means a marginal issue for the management.

Statistics and modelling software packages are used for a wide range of purposes, from supporting scientists and engineers in research projects to analysing the results of marketing surveys.

The software has matured over the past decade and the vendors claim that today they are one of the most powerful tools for competitive advantage. There are plenty of users who will bear witness to having derived substantial benefits.

As businesses move from isolated databases to integrated data warehouses, more powerful tools to search those data warehouses and retrieve and analyse the data are urgently needed. A data warehouse has little value without powerful tools to test out hypotheses and search for unknown patterns in the data.

For many businesses, statistical analysis is one of the most obvious ways to understand market trends, to minimise risks and maximise opportunities.

Financial institutions use it to identify the sorts of people to whom it is least likely to be safe to lend money. Others in the same organisations may be using it to forecast sales of products and services. Meanwhile, the personnel department may be using it to study the results of questionnaires on employee satisfaction in order to reduce staff turnover.

There are, of course, several other types of software which can be applied to such tasks, including spreadsheets and databases. But statistical analysis may be needed to get to the heart of the matter and expose the crucial relationships.

Statistical software may include some important elements that are not in other types of software. Spreadsheets cannot handle multiple regression analysis – modelling the relationship between variables – without an expert writing a

When it comes to the crunching...neural networks have the edge over manual methods

macro program, which could take some time.

Olap (Online Analytical Processing) tools may also be useful for looking at statistics and quickly getting to the root of a question. But they are designed for an overview by general managers, rather than for the sophisticated investigation of data by computer experts.

Marketing is one of the areas in which the use of statistical tools is growing fastest. In the past few years sales and marketing departments have become much more numerate, as pressure increases to justify their expenditure.

Marketing managers need to be able to show that they are advertising in the best places to increase sales, that their products are offered at the best prices to maximise income and profit, that their budget is being targeted at the best prospects.

If prospects can be identified as a class, the sales force may be directed towards them, while the less-costly telesales operation handles the others.

Statistics can also refine direct marketing, says Paul Lailey, UK managing director of the Canadian software company Angoss, which sells the 'KnowledgeSeeker' statistical package.

"We all become annoyed by direct mail when it is inappropriate, but we are pleased when it *is* appropriate," he says. "Now software can help companies find out what sort of people are likely to welcome their direct mail."

Statistics may be able to indicate whether age, sex or location is the most important aspect among prospects, whether they are equally important or whether it is a particular combination which is important.

FT IT

Software at work

Statistical analysis and modelling packages

Answers to these questions could reduce the field of prospects and thus the amount of money wasted on misdirected marketing projects.

Another type of software which may be regarded as complementary to statistical and modelling packages is the emerging technology of neural networks.

This is a branch of what used to be called artificial intelligence, until that label fell into disrepute.

Recently there has been a revival of interest in reproducing the workings of the human brain. Systems which attempt to copy human thought patterns to identify key features from confused and incomplete data are called neural networks. Their advocates say that, unlike expert systems, they do not need rules to be specified at the outset and are thus not restricted by the inflexibility of the rule base.

Leading statistical software vendors, such as SAS Institute, have moved into providing neural network applications along with their other products.

SAS's UK marketing director Glyn Read says that banks are now using its product to save money on direct mail. Police forces are considering it for tracking criminal activity, he adds.

CACI, the census processor and market analysis consultancy, has long been a user of SAS statistical software and still regards SAS as the market leader.

However, Mr Ben Cooper, principal consultant on database marketing at CACI, says that the company has also adopted software from other suppliers for certain functions. CACI has also begun to use neural network systems and is now evaluating the field.

A product of this type which has attracted its attention is 4Thought, from the small London company Right Information Systems.

This has recently been licensed by three leading software companies, SPSS, Cognos and Comshare, for inclusion in their product lines.

Right's managing director Richard Hoptroff says that neural network products, such as 4Thought, will operate successfully on much poorer quality data than more conventional statistical tools.

CACI has also begun using programs based on the 'Chaid' statistical algorithm for identifying what attribute is most likely to identify members of a certain category. (Chaid is a statistical method created in the 1970s and stands for chi-squared automatic interaction detection).

Chaid software has become much more popular in the past few years because of the falling cost of symmetrical multiprocessing (SMP) and massively parallel processing (MPP) hardware. Chaid requires a large amount of data to work successfully. Corporate users can now afford to leave Chaid programs to trawl through many gigabytes of data, perhaps over a weekend, in search of relationships which may be significant in their marketing.

CACI uses a Chaid program from SPSS. Other large systems companies have been adding Chaid modules to their product lines.

In future statistical analysis systems, Chaid and neural networks are likely to be integrated more closely to form a single toolset for managing a business. Together they could serve to underpin a company's executive information system (EIS) by testing all the management's assumptions about how their business operates.

■ Statistics in government – By Rod Newing

Valuable insights won

How the Scottish Office helps speed up data analysis

"As a statistician, I need to make data accessible to non-statisticians," explains Ms Catriona McKay from UK government's Scottish Office.

"By using computer software effectively, we can make more information more accessible to users. We can provide them with analysis more quickly and respond to follow up questions faster."

The Scottish Office has 20 gigabytes of data about Scotland in SAS databases. These are currently on their mainframe, a local area network server and local personal computers, although it will soon be centralised on a Unix server. Data is only collected annually, so there is little continuous data and it is hard to get long time series or meaningful trends.

"The Scottish Office have been using the SAS Insight product for a number of years. It fits statistical distributions to data very quickly by choosing them from a list," explains Miss Mckay. "You can start with a linear distribution and then choose more complex ones. It is also possible to apply a transformation to the data, such a logarithm or square root, to convert the relationship to a straight line, which users find easier to understand."

Miss McKay finds it useful to interactively eliminate individual observations or groups of observations if they are skewing results. This particularly applies if they are 'outliers', which are extreme values in the data, usually caused by errors. Insight allows the user to click on the observation and view all its details. If the error is just a decimal point in the wrong place, for instance, it can be edited.

"You need interactive tools to try different models and compare results without waiting for hard copy output," says Miss McKay. "With Insight it is very easy to create summary data sets to make it easier to work interactively. The hard part is selecting the variables."

Greater clarity

"From a statistician's point of view, Insight's data visualisation tools give a better indication of data distribution. It gives you an idea of what the data looks like, especially new data. It also helps to indicate any 'outliers', which are hard to spot in tables."

Insight makes it easier for statisticians to explain their data to end-users. The Scottish Office uses the SAS Graph and AF tools to create custom interfaces to the statistical tools. They find that their users are getting more sophisticated and are expecting graphical presentation of statistics. They use colours and three-dimensional charts to present data. They can also give users the SAS data by exporting it to other formats, such as Microsoft Excel and Word.

Changes in the structure of local government in Scotland are now taking, so the Scottish Office has taken data and linked it to a digital map. "We were finding it difficult to understand where in Scotland the new authorities are to be physically located, let alone the data," says Miss McKay.

"Insight allows us to view the data geographically. For instance, we can compare a map of population distribution with one of car-ownership. We can then drill-down from population distribution to age and gender."

"Insight gives us the best set of analysis tools of any package ... its data manipulation tools are good, so it is relatively easy to bring data together from multiple sources and put it together to create a meaningful picture. Insight can handle greater volumes of data without users being aware of it."

"It allows us to work interactively with data. You can make changes on the screen and the display responds as you work. We can also get different views of the same data simultaneously. However, Insight's real benefit for statisticians is that we can do more work, faster and more innovatively."

■ Financial applications – By George Black

How a lender can speedily check the risk of fraud

Software sifts through a mass of historical data on fraud incidents to identify key criteria

Financial institutions have long used statistical software to study the risks of giving credit to customers.

Provident Personal Credit, the UK's leading home-collected credit company, has now adopted US statistical software from SPSS to help minimise the risk of fraudulent activity.

Its agents visit more than a million customers around the country every week. This creates a formidable task in analysing and verifying all the transactions.

Although loss through fraud has not been a big problem, the company was aware that even a small reduction in fraud could bring about a substantial cost-saving.

The company's principal method of fraud prevention is to visit customers and check that transactions had been properly made. This is an expensive undertaking, even when only carried out on a small sample.

A computer system would enable the company to direct its vigilance to those agents about whom there was a degree of concern. It would minimise the risk by analysing statistically in circumstances where such incidents were most likely to occur.

After a couple of false starts using knowledge-based systems and neural networks, the company decided to apply the SPSS software which was already used by its marketing department.

SPSS was harnessed to a mass of historical data on fraud incidents to identify the key criteria. It worked through a list of 70-80 factors and discarded those which it found to be of little or no significance.

The possible factors which were listed covered both business patterns and the agents' personal data.

With SPSS, the company was able to build a predictive model which it called the Agent Fraud Detection Package. This has now been running for a year and the company says it is "very pleased" with the operation.

The model determines risk

Continued on next page

■ **Interview:** Bill Inmon

Healthy scepticism spawned the data warehouse industry

Journalist and consultant Bill Inmon could not accept what IBM was saying about relational databases. He developed the concept of a data warehouse to prove the giant computer company wrong – and now everybody wants one. Rod Newing talked to the undisputed 'father of data warehousing' about how the concept helps managers to run their business and be more competitive

Inmon: 'The rate of acceptance of data warehousing is breathtaking'

Discovering customer buying-trends from past retailing data, enables companies to target their customers more accurately

IBM were "over-hyping relational database technology beyond belief and my healthy scepticism triggered a bitter war of words with Ted Codd and Chris Date, the *founders of relational technology*, backed by IBM," recalls Mr Inmon, who was then writing a column in the US magazine *ComputerWorld*.

"They were arguing against holding history or summarising *the data*.

"Application programmers were not building systems to provide the information which managers need to run their business."

This was in 1983 and Mr Inmon had recognised that the industry emphasis was on using relational databases for transaction processing, not for providing managers with the information to help them make decisions. He developed the concept of a data warehouse to bring together information from different transaction processing systems and integrate it. *(see box, below)*.

"Integrated information is required for managers to understand important things like customers, products and sales," explains Mr Inmon.

Transactions with a customer could be carried out *through several different transaction* processing systems, each developed for a different product group or service.

"Transaction processing concentrates on being accurate now, so it also loses a wealth of *information in history*," he continues. "Examining history allows a business to understand its seasonality. All businesses have seasonality, but some have more than others and it cannot be measured without historical information."

Mr Inmon points out that human behaviour and consumption has a pattern which is established early in life. "People don't make dramatic changes in behaviour, so past behaviour is a good indication of future behaviour".

Determining customer behaviour from their past patterns, hidden in their data, *enables organisations to determine* detailed marketing initiatives and target their customers more accurately.

"Data warehousing represents a change of paradigm in how we conceive data," Mr Inmon *explains*. "We need a whole new world of historic integrated decision-support processing alongside existing our transaction-processing systems."

One of the main attractions of a data warehouse architecture is the ability to take information from legacy transaction systems and make it available to managers through a wide range of client-server end-user *tools*.

"Unlike other fashionable trends, such as client-server, data warehousing has a solid intellectual foundation," Mr Inmon believes. "Client-server can mean anything a vendor wants it to mean. Sybase and Sun invented it, but they didn't give it a definition. With a data warehouse, you can go to a single place to go to tell you what a data warehouse is. This will *separate it from other buzz* words and fads."

The single place he refers to is his book, *Building the Data Warehouse. As far as using the* data warehouse is concerned, Mr Inmon divides users into "farmers" and "explorers." Farmers are typical managers who access the data mart using an Enterprise Information System – "they know what they want, they do things in a predictable and repetitive way and they find flakes of gold," he explains.

Analysts

Explorers are typified by high-powered analysts, often referred to a "data professionals." They don't know what they are looking for, but they search through massive amounts of data in the main database. A data warehouse provides an ideal platform for data-mining, so they often use one of those specialist tools.

"They usually find nothing," *warns Mr Inmon*, "but occasionally they find huge amounts of gold." It is this ability to gain new understanding from data which brings competitive advantage to so many organisations.

However, Mr Inmon warns that there may be problems if farmers become explorers, causing managers to spend too much time looking at detailed *data. "When a user first tastes* the detailed data, they fall in love with it and attach themselves to it with an umbilical cord. They latch on to it and won't let go. The trick is then to wean them away."

One of the challenges of data warehousing is the massive, and rapidly increasing, volume of historical data, because data warehouses are constantly fed with large amounts of new data each day, without archiving earlier data.

"Volumes of data are heading our way the likes of which people haven't seen," warns Mr Inmon. "The databases are going to eclipse present volumes, so one hundred gigabytes of data is nothing. The largest data warehouse in the world is Wallmart's, which is about 4.5 terabytes.

"For the foreseeable future, two to three terabytes will meet most *people's needs*, but we will have pedabytes of data in ten years."

A pedabyte is 1,000 terabytes or one million gibabytes or 1,000,000,000 megabytes.

When questioned about the ability of database software to cope, Mr Inmon is clear that Oracle and Informix, the clear market leaders in data warehouse database software with *75-80 per cent of the market*, can both handle massive amounts of data.

The focus in the market today is what a data warehouse is and how do you build it, Mr Inmon believes.

The next focus of attention is going to be how to manage it and use it effectively. When these concepts have achieved maturity, he sees it developing and evolving to accommodate new conditions. By then, it will not be used so much for cleaning up old legacy data, as it is now.

"If we had orderly integrated transaction processing systems by then, we could build orderly simple neat interfaces into a warehouse. However, I have very little faith in IT organisations building integrated transaction systems."

Cost savings

He points out that the cost of integrating data is just as significant as the cost of database software and the hardware to run it. Integration of transaction processing systems as they are written would reduce the cost of implementing a data warehouse very significantly and make it available to a wider range of organisations.

Not all claims made by data warehouse component vendors are valid and Mr Inmon has some warnings: "In zeal for vendors to cash-in on data warehousing, everybody claims to do it.

"Some *database companies* have claimed to be able to optimise one database to do both transaction processing and decision support, but it is fiction and doesn't work. The vendors who made these claims have mostly given up or been taken over."

"The concept of a virtual data warehouse is the snake oil of the 1990s.

"Letting PCs access the data in legacy systems direct doesn't address problems of integration, history or summarisation. You have to re-architect systems."

Mr Inmon admits to finding the rate of acceptance of data *warehousing "breathtaking* and astounding. Users have always understood the advantages of a data warehouse architecture. We started with actuaries and then marketing and sales people picked it up".

He adds: "IT departments started with the macho attitude that transaction processing was the only system worthy of their attention. They didn't recognise the validity of decision-support systems".

His healthy scepticism has brought a new life to the database market and is helping to transform the way organisations use data.

IBM may have fought him in the beginning, but they have done very well out of building data warehouses for their customer.

□ *The author, Rod Newing, MBA FCA FInstD, is a specialist in executive computing; (rnewing@cix.compulink.co.uk)*

A prolific writer

Bill Inmon has a background in programming and database management. He has been a journalist and consultant working for American Management Services, where he was chief architect of the world's first data warehouse, built for Pacific Telephone in 1986. He was also national director of technology for Coopers and Lybrand and then ran his own consultancy company.

He founded Prism Solutions in 1991 to develop software tools to automate the transfer and management of data in a warehouse. Prism will seek a public listing in the near future.

Mr Inmon has written over 200 articles and 31 books, including *Building the Data Warehouse* and *Using the Data Warehouse. He is currently writing Managing the Data Warehouse.*

Data warehousing explained

A data warehouse architecture consists of a separate relational database of integrated detailed historical data, together with summarised information customised into a series of smaller relational or multi-dimensional departmental "data marts".

The information is used by directors, managers and analysts to analyse their *business and customers to* make key decisions, ranging from strategic changes of direction to micro-marketing to customers. The considerable costs of a data warehouse architecture are justified by the competitive advantage which it can bring if used effectively.Users access the main data base or *customised departmental* data marts using a wide range of tools. These include Enterprise Information Systems (EIS), spreadsheets, data browsers, report writers, query tools, data mining tools, *data visualisation tools*, desktop mapping tools and many others.

A relational database can be constructed to be extremely efficient at either transaction processing or decision support. However, the structure required for each is diametrically opposed and a database cannot be efficient at both.

Using a database optimised for transaction processing can cause a serious deterioration in its data input performance.

■ **Statistical software**

Financial risks reduced

Continued from previous page:

factors for agents and customers *which are used to direct* activity to those areas with the highest risk.

In practice, the risk factors associated with frauds discovered in the past year have been an average eight times higher than the general population.

The system has been effective in reducing the total value of frauds not only by detecting fraudulent behaviour earlier but also by *acting as a deterrent*.

Since installation, the system has identified half of those cases in which a possible fraud has been notified. The other half of the cases have *been identified by routine* internal controls, such as correspondence with customers.

Most importantly, says the company's fraud analyst, Mr Steve Tipping, the system has greatly reduced the company's overall risk of loss from fraud – without increasing operating costs.

Mr Tipping's team is now looking again at the possibility of using other types of software, including neural networks and rule induction techniques. Tests are being carried *out on Integral Solutions' Clementine* package, which encompasses both approaches.

"Statistical software will continue to be the basis of our strategy, but other types of system may be used as an adjunct," adds Mr Tipping. "Sometimes using them all together can be more effective than using one on its own."

Provident Personal Credit has made investors aware of *the introduction of the system*.

As investors have become more concerned about the internal security of financial institutions in the wake of the Barings collapse, the use of statistical software for fraud *control is likely to become* more widespread.

SPSS, based in Chicago, is one of the leaders in statistical software, with versions running on many types of computer hardware and supported in several languages.

Its products are also used for survey research, sales and marketing analysis, quality improvement, scientific research and education.

■ **Software maintenance** – By Philip Manchester

Could software ever become self-repairing?

Software suppliers are beginning to think about an automated approach to maintenance as a result of the spread of global networking

Ask any computer programmer about software maintenance and they will say it is tedious, boring and a career *cul-de-sac*. Nevertheless, conventional wisdom has it that maintenance represents as much as 70 per cent of an information technology (IT) department's software budget. This means that more than two-thirds of programming *effort goes into maintaining* old systems rather than building new ones.

In spite of the negative image, the maintenance task has had in the past, changes in the structure of software promise to make it a lot more exciting in the next few years. The rise of client-server systems, new approaches to software design – such as object-oriented computing – and the growing use of Internet-based communications all have *significant implications for software* maintenance in the future. Looking well into the future, there is even the prospect that software could be "self-repairing". It is conceivable that software errors could be corrected automatically.

A user working on a desktop PC connected to a network could be unaware that an error had occurred, a notification sent to a central database and a program "fix" sent back. All they would experience would be a slight delay while the error was corrected.

Internet connection suppliers such as Pipex, for example, already supply software upgrades automatically when a users signs on to the network. This is a step towards making an important area of software maintenance much easier to carry out.

Software suppliers are beginning to think about an automated approach to maintenance as a result of the spread of global networking. "With the growth in people using the network, there is an *opportunity to download 'fixes' for programs*. The idea of an electronic mail directory of all users which can be used to broadcast fixes has some appeal," says Mr Tony Lewis, executive director of the Computer Services and Software Association (CSSA).

Mr Lewis admits though that it is still early days for the development of such ideas: "The huge bulk of commercial software out there is *still written* in Cobol and maintenance programmers are preoccupied with more pressing problems like what happens in the year 2000 – the Millennium Bomb as we call it."

Mr Robin Bloor, an IT consultant with Bloor Associates accepts that self-repairing software is a good idea – but is not convinced it will catch on unless it can reduce maintenance costs – "it sounds good, but I don't think it will happen. There would need to be a standard for trapping and handling software errors over the Internet".

He sees the key lying in the *switch to object-oriented computing* – which breaks software down into components rather than the traditional monolithic systems of the past.

"Using 'objects' does allow you build error-trapping. But it will take time to bring this sort of quality control for software delivered over the Internet."

Mr Bloor goes on to suggest that fixing "bugs" in software is only a relatively small part of maintenance anyway: "People think of maintenance as anything to do with changing software. They confuse systems enhancements and bug-fixing. But in reality the bulk of changes occur because the business changes or because the hardware environment changes. Only about 20 per cent of the perceived maintenance budget is directly involved with correcting errors in the original code."

Mr Andrew Bailey, product marketing manager at Oracle UK, sees the onus of maintenance shifting from the *supplier to the "assembler" of software* applications.

"No one can see with any certainty quite what will happen as a result of software objects and the Internet.

"Obviously it will be more convenient to deliver software over the network – particularly as it is moving to a component model. This means the onus of software maintenance will switch to whoever is *responsible for* putting the components together," *he says*.

He also sees potential for the idea of self-repairing software as a result of the move to object-oriented computing. "The concept of objects makes self-repairing code possible – it would be easier to change components. And, in an environment like the Internet where you don't know where software components are being used, *some sort of notification process* to a central repository could be useful.

"At the moment I am not sure the software industry is fully conversant with the implications of all of this yet."

One area where a combination of component software and Internet communications could make a real difference to maintenance strategies is the concept of the network computer – promoted strongly by Oracle and Sun Microsystems.

Unlike current personal computers, network computers do not store their software locally, *they "download" it from* the network when the users needs to use it. Sun, for example, is promoting the Java language as the mechanism for building software components which can run on a network *computer. This means that each* time a user wants to use an application, they can be sure of getting the most up to date version.

"This is certainly one of the attractions of Java. In theory, all of the maintenance can be carried out centrally on a single server computer and distributed to network computers. This will obviously bring down costs," says Mr Bloor.

Mr Bailey of Oracle agrees – but points out that the application software on the server could still be "assembled" from components from diverse sources.

"Distribution is easier – but the server application code is likely to be a combination of components from all over the place. That will still represent a big maintenance problem and one that is very different *to the current model*," he observes. While the idea of self-repairing software might be some way in the future, it is clearly one that will come on to the agenda soon. The fragmentation of software applications is already well advanced and will gather speed as Internet-based communications spreads.

Perhaps when the knotty problem of upgrading software to cope with the new Millennium has been overcome, the software industry will begin to focus its attention on automatic maintenance as a way to cut the cost of software ownership.

■ **Guest column**

Customers are becoming choosier about services

The IT outsourcing market needs to re-examine some of its core *assumptions*, says Charles Cox

The IT outsourcing market is ripe for change even though – or perhaps *because* – outsourcing is now such a familiar idea and the historic benefits are so well understood.

The key to change, however, lies in the behaviour of the buyer. Leading customers are no longer buying a facilities management service as if it were a commodity, and their understanding of how to gain the best value for their business is evolving. Customers are becoming choosier about the *form of service they buy, how* they buy it and, more importantly, about what they do with it.

Outsourcing is a powerful but partial solution. The key is not so much taking the cost-based decision whether to outsource or not – which often consumes a vast amount of management and employee time and resource – but forming a clear-eyed view as to which elements of their business would benefit and would be better supported by an outsourced service and how such supply *re-structure* delivers additional value to their own business.

The transfer and ongoing management of a company's computing facilities, has long seemed an attractive proposition. It promised not only cost savings but performance improvements as non-core parts of the business were hived off.

Best practice

Running IT systems, after all, was the core business of the outsourcing supplier, which suggested that such a company could take on the job *and do it more cost-effectively*.

With experience derived from many other companies' IT systems, the outsourcing supplier could not only draw on the diversity and depth of its own technical expertise but could ensure that the service provided represented industry best practice.

Today, though, there is a new recognition that outsourcing is not a 'Will we or won't we?' all-or-nothing binary decision. The best solution may well be a combination of outsourcing and in-house resourcing. In virtually *all* cases, at least something will remain in-house.

Couching the decision in terms of whether it is better to outsource or not is an oversimplified approach. From the business perspective, where you take something from is not usually the key success factor. What counts is what you take and what you do with it. Ultimately, successful outsourcing springs from customers analysing their value-chain and forming a view as to the gearing potential of the IT investment. How and from where that comes is then the next level of decision.

This has clearly moved on from the days when IT outsourcing promised to turn the IT budget, a fixed cost item, albeit one that seemed to spiral ever upwards, into a variable one. A sturdy, solid outsourcing contract promised to remove another management headache.

What happened next, though, was that some customers in effect froze their business objectives in their invitation to outsourcing tender. In the real world, where business objectives are usually fluid, the IT services contract began to lag behind. As mergers, acquisitions, re-structuring and de-layering became normal features of the corporate landscape, the IT services contract struggled to keep up with the pace.

Fresh needs

A recent survey by Input showed that, in the next five years, companies will want different things from their outsourcing supplier. As a result, a set of purely technical capabilities, such as the expertise to migrate from one computing environment to another, decline in relative importance.

Meanwhile, business-led IT skills take their place: for example, the ability to identify improvements to business process and then develop and move to the appropriate IT service.

In parallel, technology itself

Continued on page 17

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FT

FINANCIAL TIMES

Dear Reader

It is important for us to know as much as possible about the readers of FT-IT so that we can continue to improve this product and design others for you as well.

Whether you read FT-IT regularly or only occasionally, we would be grateful if you could help us by completing and returning this questionnaire. The survey results will be used by our editorial, advertising, marketing and electronic media departments. Your reply will be treated in the strictest confidence by Martin Hamblin Research who are a leading independent market research company.

Please return the questionnaire and send it to Martin Hamblin before Friday, 19 April. The address is on the reverse of the questionnaire. No stamp is required if it is posted in the UK. However, it has not been possible to organise Freepost for outside the UK.

Thank you for your help.

Yours sincerely

Rhys David

RHYS DAVID
SURVEYS EDITOR

SECTION I - ABOUT THE FT AND FT-IT

1. How often do you read the Financial Times: a) on weekdays b) on Saturdays? (11-12)

	Weekdays	Saturdays
Every/nearly every issue	☐	☐1
Quite often	☐	☐2
Only when FT-IT is published	☐	☐3
Only occasionally	☐	☐4
Never normally	☐	☐5

2. And how often do you read FT-IT? (13)

- Every/nearly every issue ☐1
- Quite often ☐2
- Only when I come across it ☐3
- This is the first issue ☐4

3. Were you previously aware of the publishing programme of FT-IT (first Wednesday of every month apart from January and August)? (14)

- Yes, knew precisely ☐1
- Knew it was monthly, but not which day ☐2
- Did not know programme ☐3

4. What do you use FT-IT for? (15)

- To look for new ideas ☐1
- To understand the marketplace ☐2
- To understand the technology ☐3
- To find out what competitors are doing ☐4
- To provide points for discussion ☐5
- To look for new IT applications ☐6
- To look out for new products ☐7
- To find out about IT companies ☐8
- To read about people in IT ☐9
- To find out about problems associated with IT ☐0

(Tick as many as you wish)

5. What do you do with your copy of FT-IT after you have read it? (16)

- Pass it on to colleagues ☐1
- File it for future reference ☐2
- Throw it away ☐3

6a) What sort of people do you feel FT-IT is written for?

6b) Which of these descriptions best fits you? (17-18)

	FT-IT is written for	This description best fits me
Non-IT Management who want to know how computers can help them	☐	☐1
Other executives in companies using IT	☐	☐2
IT Management	☐	☐3
Management & executives within IT companies	☐	☐4
Analysts who track the IT sector	☐	☐5
Students of Computer science	☐	☐6

7. What other sources do you use for information about IT? (19)

- Other national newspapers ☐1
- Specialist magazines ☐2
- TV ☐3
- Radio ☐4
- Colleagues/friends ☐5
- Information from IT company literature ☐6
- Information from IT company representatives ☐7

SECTION II - ABOUT YOU

8. Are you...? Male ☐1 Female ☐2 (20)

9. Are you...? (21)

Under 25	☐1	45 - 54	☐4
25 - 34	☐2	55 - 64	☐5
35 - 44	☐3	65+	☐6

10. Are you...? (22)

- Working full-time ☐1
- Working part-time ☐2
- Studying ☐3
- Retired ☐4
- Running the home ☐5
- Looking for a job ☐6

11. What is your country of residence? .... (23-24)

12. Do you use a PC...? (Tick more than one if relevant) (25)

- At home ☐1
- At work ☐2
- When travelling ☐3
- Don't use a PC ☐4

13. Is your PC...? (26-27)

	At work	At home
A laptop	☐	☐1
Desktop stand alone	☐	☐2
Desktop networked	☐	☐3
Don't use a PC	☐	☐4

14. Do you have a modem? (28-29)

	At work	At home
Yes	☐	☐1
No	☐	☐2

15. Is your modem speed...? (30-31)

	At work	At home
Less than 14,400 baud	☐	☐1
14,400 baud	☐	☐2
28,800 baud	☐	☐3
ISDN	☐	☐4
Don't know	☐	☐5
Don't have a modem	☐	☐6

16. What PC services do you use? (32-33)

	At work	At home
Corporate e-mail	☐	☐1
Internet e-mail	☐	☐2
Internet web access	☐	☐3
On-line services	☐	☐4
None of these	☐	☐5

17. Do you use any of the following? (34-35)

	At work	At home
CompuServe	☐	☐1
America On-Line/Europe On-Line	☐	☐2
Microsoft Network	☐	☐3
FT Profile	☐	☐4
Knight Ridder	☐	☐5

18. If you use the web, how many different sites do you visit during a typical day? (36-37)

	At work	At home
1-2	☐	☐1
3-5	☐	☐2
6-10	☐	☐3
Over 10	☐	☐4
Difficult to say	☐	☐5
Don't use web	☐	☐6

19. Which sites do you visit most frequently? (38-42)

....

....

....

....

20. If you use the web, which Browser do you use? (43)

Netscape	☐1	Explorer	☐4
Netscape 2	☐2	Other	☐5
Mosaic	☐3	Don't use web	☐6

21. What type of information do you look for on the web? (44)

- News ☐1
- Job advertising ☐2
- Information on products/services ☐3
- Other ☐4

22. How often do you access the web at the following times of day? (45-50)

	Usually	Sometimes	Never
Start of the day	☐1	☐2	☐3
During the morning	☐	☐	☐
At lunch-time	☐	☐	☐
During the afternoon	☐	☐	☐
End of the working day	☐	☐	☐
During the evening/night	☐	☐	☐

23. Would you be prepared to purchase goods on-line by credit card? (51)

- Yes ☐1
- Possibly ☐2
- Definitely not ☐3

24. Does your company have a web site? (52)

- Yes ☐1
- No ☐2

25. Does your job responsibility involve taking decisions about the purchase, leasing or use of goods or services? Please tick any items on the list below for which you:
a) initiate work that results in a purchase, b) evaluate shortlists of brands or suppliers, or c) authorise purchases. (PLEASE TICK ALL THAT APPLY FOR EACH ITEM) (53-56)

	(a) Initiate	(b) Evaluate	(c) Authorise	
Networks and Data Communications				1
Personal Computers				2
Software/Software Services				3
Telecommunications products and services				4

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■ IT Outsourcing – By Nuala Moran

From shotgun marriage to love affair

The rampant growth of the outsourcing market is reshaping relationships across the IT industry, forcing arch-rivals to collaborate and turning fierce competitors into top customers

Anyone caught up in a love triangle might have some sympathy for traditional IT vendors – companies such as IBM, ICL, Digital, Unisys and Hewlett-Packard – when a customer decides to hand over the running of a computer system to an outsourcing company.

Having won and run the account on the basis of a one-to-one relationship with the client, there is suddenly a powerful third force involved. As a member of Britain's royal family put it, "there were three of us in the marriage and so it was rather crowded".

But rather than separation, or even divorce, vendors are learning how to live with, and profit from these eternal triangles, according to Richard Collins who is responsible for ICL's local government business in the south of England.

"Of course it was traumatic when the local authorities started outsourcing their information technology departments and we had to cope with three-way relationships," he says.

The surging IT outsourcing market in the UK grew by 37.5 per cent last year, to £1.4bn. But what started as a competitive conflict is now turning into a "win-win situation". Mr Collins says: "We have worked on building relationships with the outsourcing companies and now believe both parties can benefit and continue to deliver a good solution for the customer."

Collaboration has reached the point where ICL has made joint bids with the incumbent outsourcing company for new business.

It is a shock to suppliers when outsourcing happens, according to Mr Brian Gunn, head of Integris, the outsourcing arm of Bull. But he says the IT industry is becoming "much more mature about outsourcing contracts. Relationships change but the outsourcing company is still a potential customer".

Outsourcing companies cannot afford to be high-handed with the incumbent suppliers – "they need a good relationship with the vendor to be able to get the best out of the system and to keep up to date with developments in the technology," says Mr Gunn.

The spirit of collaboration fostered by the growth of outsourcing has led competitor outsourcing companies to make joint bids for new contracts.

For example, Capita Managed Services recently combined with the ICL outsourcing arm CFM to win a contract from the London Borough of Hounslow for IT and managed financial services.

Similarly, ITnet and Capita which have separate contracts to provide IT and managed services respectively to the local authority in Croydon, south London, say they must co-operate closely to run a seamless service. This involves holding regular meetings both together, and with the customer.

> 'The spirit of co-operation may be forced on outsourcing companies'

Often joint bids are no longer made in the traditional form of lead contractor and sub contractor. They require companies that may have competed fiercely for a contract last week and will do so again next, to swop information and make a co-operative bid – "this is forcing competitors to be very open with each other," says Maggie Harvey of Siemens Business Services.

The growth of outsourcing is also promoting new types of relationships between customers and outsourcing companies. For example, the systems company Logica teamed up with the IT department at Britain's Customs and Excise to help the in-house team win the £100m contract to run the Customs computer systems.

Rather than completely handing over its billing system to an outsourcing company, British Gas has set up a joint venture with Amdahl, called AG Solutions.

AGS, which is 60 per cent owned by Amdahl, is described as a "shared expertise" company. Apart from developing and running the system that bills 18m British Gas customers, AGS will look for business elsewhere in the energy and utilities sectors.

One of the big attractions of outsourcing is that it allows organisations to simplify their relationships with IT suppliers according to John Bateman, chief executive for EDS Europe. "We manage all the existing relationships with the existing vendors," he says. This demands a certain level of what he terms "corporate maturity".

Some suppliers have "difficulty in accepting that they must deal with EDS rather than the customer. Others get over it and get on with building a good relationship with us," he adds.

In the past three years there has been increasing acceptance on the part of hardware and software vendors of the position of EDS between them and the customer, and some begin to see it as an advantage.

"As a technology company, we speak the same language, and that makes us easier to sell to," he says.

When, in 1994, EDS won the contract to run the computers that collect the UK's income tax, it caused some discomfort for ICL: the Inland Revenue system was one of ICL's most prestigious mainframe sites. In effect, the deal meant that EDS became ICL's largest customer. But Mr Bateman says that as a result of the relationship between the two companies, ICL has increased its overall business at the Inland Revenue.

The spirit of co-operation may be forced on outsourcing companies by clients who want to hand over their IT but do not want to give it all to one company, according to Sally Tate, managing director of Prince, a systems house in London – "increasingly they are saying, we want you to manage our systems and here are the companies you are going to work with".

This model of enforced co-operation among outsourcing companies to deliver a seamless service has been perfected by BP Exploration. BP did not want to outsource all its IT to a single supplier because it believed this would be expensive and inflexible.

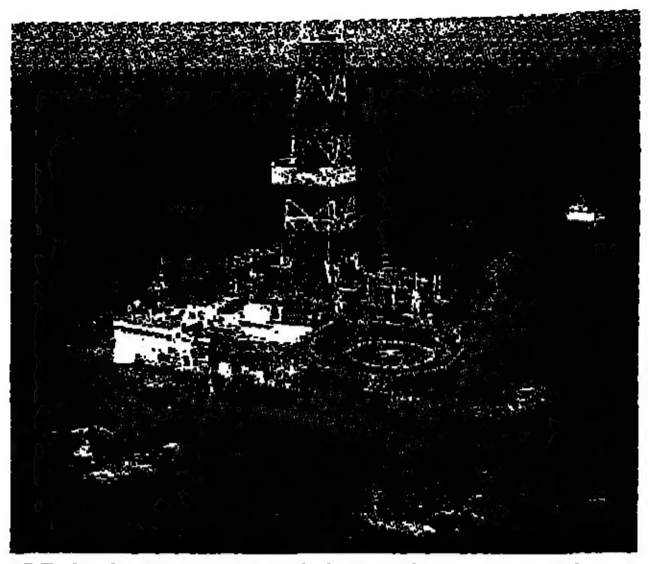
But at the same time, the company did not want to slice up the IT operations because of the effort involved in managing a number of contracts.

BP came up with the ideal solution – multiple outsourcing companies, acting as one. After an initial selection process, six companies were invited to a meeting, asked to test each other's strengths and then put together consortia to bid for the contract.

"It was like a business school game, but for real," says David Tate, director of energy, government and utilities at Sema Group, who was one of the participants. The six companies submitted five different proposals: the contract went to a bid from Sema Group, the US company Science Applications International Corporation and Syncordia, part of BT.

For each of BP Exploration's eight main sites, one outsourcing company acts as prime contractor and co-ordinates the trio, giving seamless service without BP having to manage multiple relationships with suppliers.

While this may have overtones of a "shotgun marriage", it has turned into a love affair – "these relationships may take time, but you end-up liking the people you work with," says Mr Tate.



BP Exploration came up with an ideal outsourcing solution: multiple outsourcing companies, acting as one

■ Guest column – Charles Cox on outsourcing issues

Re-evaluation is crucial

Continued from page 14

has undergone some profound changes, with two trends especially worthy of note. The first is the gradual replacement of centralised mainframe systems with 'open' distributed computing environments, even if some observers (such as Joseph De Feo of Barclays Bank in July's *FT-IT Review*) remain properly sceptical about the efficacy of the open systems movement and mainframes seem to be having a resurgence as 'corporate servers'.

As the term 'data centre' might suggest, centralised computing was always a specialised and discrete operation. Distributed client/server computing, in contrast, is much more tightly integrated with business process and the business operation. So, as distributed computing in all its guises takes hold, IT is required to be more the biddable servant of business process.

The second significant technology change has swept across the development of business applications. In the mainframe world, this was a very carefully managed process that often led to a logjam of application developments, which eventually forced companies to crawl when they had hoped to sprint.

Today's distributed computing is characterised by packaged software and iterative application development – a broad term that encompasses user-centric Rapid Application Development (Rad), object technology and a host of client/server software tools.

The key here is rapid prototyping followed by revisions based on direct feedback from the users of the applications. Once more, this means that the requirements of the business process should be translated far more quickly into IT services.

> 'We should expect to see new styles of contractual arrangements in outsourcing'

Meanwhile, new systems and technologies can enable process improvements not possible before. Simultaneously with new distributed computing, re-engineering often leads to layers of middle management being ripped out, never to be replaced, so that roles and responsibilities change fundamentally.

Simply put, the world moves too fast to allow business objectives to be enshrined in over-rigid outsourcing contracts. Dynamic re-evaluation must the watchword, and we should expect to see new styles of contractual arrangements between companies and their outsourcing supplier.

Customers still want IT services in the form of a service, rather than having to own it as a function and an asset or, increasingly, a liability. Increasingly, though, it makes more sense to contract for the new style of computer services against business objectives, not the mechanics of supply.

In short, the outsourcing market needs to re-examine some of its core assumptions in a bid to remain relevant. Fresh thinking is required with a new approach to the contractual relationship between the customer and his business partner.

Outsourcing is no longer just about taking on and running existing activity more economically. That limited role no longer makes sense. Instead, outsourcing is evolving into a new service that, more and more, is about understanding the customer's value chain and so focused on the need to re- align IT to value delivery - value in terms of the customer's business objectives.

The writer, Charles Cox, is group sales and marketing director at Hoskyns.

■ News in brief

600,000 visitors attend CeBIT 96 at Hanover

CeBIT, claimed to be the world's biggest IT trade show, recorded a cut in visitors of about 155,000 visitors last month – a fact that pleased the organisers who had a well-publicised plan to attract a high proportion of professional buyers, rather than general visitors.

Last year the show attracted 755,300 visitors, *writes Michael Wiltshire.*

This year, admission prices to the seven-day event were raised from DM32 to DM50 for a day ticket. More than 6,000 exhibitors from 60 nations participated at the information and communications event. Nearly 90 per cent of exhibitors have indicated that they will return for CeBIT 97.

A new consumer-orientated show this August – CeBIT Home – is likely to attract large numbers of private visitors from August 28 to September 1.

New products at Comdex UK

More than 20,000 attendees have already registered for Comdex/UK which is being launched at Earl's Court, London from April 23 to 26.

The organisers report that more than 100 important new launches will be unveiled at the event, as well as numerous product enhancements and upgrades. Among the larger exhibitors will be Sony, Philips, Sharp and Psion.

During the event, Rob Wirszycz, director general of the Computer Software and Services Association will be asking a 'Power Panel' of IT luminaries to give their predictions on key issues facing the industry.

Details on the new Comdex event are available from Chris Corfield or Peter Jump in London on 0171 351 4488.

The value of warranty

While manufacturers have learnt how to successfully package and market personal computers to home consumers, the opportunities to service and support these new users have not been pursued, says a new study of the European consumer PC market by the research group, Dataquest.

"Many vendors have launched into the home market without due attention ... most, if not all, vendors offer warranty as a product feature and not a choice of service," says the report. "Consumer must have a choice if PC suppliers are to retain market loyalty."

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1-2 SANDERSON

Tel: 0114 282 7777
Fax: 0114 282 1340
E-Mail: SeanH@Sanderson-cbt.co.uk

For Premier Computer Solutions

Sanderson is the UK's premier open systems supplier of computer solutions and related technology and networking services with 15 offices in the United Kingdom and operations in Australia, USA, New Zealand and East Asia. Sanderson has developed and owns an extensive portfolio of software packages for a wide range of industries and applications including:

Geographical Coverage International

Manufacturing	Schools & Colleges	Solicitors
Processing Industry	Fleet Management	Production Monitoring
Direct Marketing & Mail Order	Airports	Insurance
Finance and Distribution	*Financial Management*	*Police & Security*
Printing Industry	Healthcare	Document Image Processing
Media Industry	Multimedia & CBT Training	
Credit Management & Collections	Logistics and Distribution	
Local Government	Hotels	

SANDERSON COMPUTERS

3 KAI Computer Services Ltd

6 Kings Exchange, Tileyard Road,
London N7 9AH
Tel: 0171 609 3746 **Fax:** 0171 609 3742

OCTOPUS ACTIVITY AND CONTACT MANAGEMENT

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4 J D Edwards (UK) Ltd

Oxford Road, Stokenchurch, High Wycombe
Buckinghamshire HP14 3AD
Tel: 01494 682700 **Fax:** 01494 682699

J D Edwards & Company is the industry leader in supplying application software and solutions for the IBM AS/400 market. Developed using CASE tools, *J D Edwards is currently developing a new* generation of software products, which will operate on a variety of platforms.

J D Edwards' fully integrated solution is for cross-industry and industry specific applications including general business, financial, manufacturing, distribution/logistics and energy and chemicals.

A global solutions provider, J D Edwards has more than 3,800 customers in 91 countries with multi-national functionality including multi-currency and language capabilities.

JDEdwards

5 QSECURITY LTD.

Lutomer House, 100 Prestons Road
Canary Wharf, London E14 9SB
Tel: 0171 515 9229 **Fax:** 0171 515 3957

Computer security is the major threat to financial services and all those with heavy investment in confidential business data essential to a competitive edge. They all stand to lose everything. Most are far more vulnerable than than they realise. *Fraud and theft* via computer are the fastest-growing crimes worldwide and cost UK companies alone £1 billion. QSECURITY Ltd offers the most comprehensive, effective counter-measure - CRUSADER™. This addresses the root problem, which runs far deeper than traditional concepts of passwords and user access and is a question of real surveillance, "who guards the guardians". See us at Stand 288, infosec '96, Olympia, April 30-May 2.

Hardware: IBM AS/400, Server, Client/Server, Windows
Applications: Financial, government, commerce.
Geographical Coverage: Worldwide
Cost: Prices on application

6 Computacenter Limited

Computacenter Hse. 93-101 Blackfriars Rd.
London SE1 8HL
Tel: 0171 593 4655 **Fax:** 0171 593 4650

Computacenter is the UK's leading independent provider of distributed IT systems and services. Its clients are large corporate and government organisations. Besides the supply of PC and networking equipment, software and consumables, the company provides a wide range of services including consultancy, installation services, project management, user support, networking services, training, maintenance and facilities management.

Hardware and Software: Form Compaq, Digital, Hewlett-Packard, IBM, Lotus, Microsoft, Novell, Sun, Toshiba and all other leading providers of distributed IT hardware and software.

Geographical Coverage: UK, France and at International Computer Group partnership locations *throughout Europe*, Asia Pacific and North America

Computacenter

7 JBA

Needles House, Birmingham Road
Studley, Warwickshire B80 7AS
Tel: 01527 496444 Fax: 01527 496230

Product Description: JBA System 21 is a completely integrated information services infrastructure for organisations trading in national and global marketplaces. As well as being client/server based, System 21 is object enabled, meaning it can be used with object oriented operating systems when they become available.

Hardware: Multi-platform
Geographical Coverage: Worldwide
Applications: System 21 Manufacturing, Financial, Customer Service & Logistics with specific software for the Drinks, Apparel, Food, Automotive, Plant, Tool and Equipment hire industries.
Cost: Available on request

8 Tivoli Systems Software S.A.

22, rue Juste-Olivier
CH-1260 Nyon, Switzerland
Tel:(41 22) 994 94 94 Fax:(41 22) 994 94 95

The Tivoli Management Environment™ (TME) is composed of powerful, integrated software products which enable companies to centrally manage their distributed systems and applications. TME is a proven leader in the field of client/server systems management and has been widely accepted as an industry standard. Many Fortune 500 companies and government agencies worldwide have come to Tivoli to make their client/server systems work.

Hardware/Compatibility
Unix, NT & Windows

Geographical Coverage
Worldwide support

Tivoli

9 Lawson Software

Capital Place, 120 Bath Road
Hayes, Middlesex UB3 5AN
Tel: 0181 754 8470 **Fax:** 0181 754 7768

Company Description
Lawson Software offers robust, client/server applications with proven business benefits for companies worldwide. Lawson has 20 years of experience in developing business applications, with high-end, corporate functionality. Combining that experience, with a unique underlying development technology strategy, Lawson offers future proof *solutions - offering both high-end functionality* and openness and integration to the newest technologies.

Hardware
AS/400, RS6000, HP9000, DEC Alpha, Sun, Sequent, U6000

Applications
Accounting, Distribution Management, Materials Management, Lawson Tools and Open Enterprise Desktop.

Coverage
FT 2000

LAWSON Software

10 Lincoln Software Limited

Marlborough Court, Pickford Street
Macclesfield, Cheshire SK11 6JD
Tel: 01625 616722 **Fax:** 01625 616780
Email: info@ipsys.co.uk
Web: http://www.ipsys.com

Lincoln Software produce a range of Meta-CASE and CASE tools for large scale three-tier client/server application development. Our Object IE product is an object oriented, full life cycle tool which includes full C++ Code Generation and Database Generation for Oracle, Sybase and *Informix. Our tools bridge the gap between* business requirements and IT.

Hardware/Compatibility
Open VMS/Solaris/Sun OS/HPUX/AIX/Microsoft Windows

Geographical Coverage worldwide

Applications
IPSYS Toolbuilder, Object IE, HOOD, SSADM

11 IIYAMA (UK) LTD

6-8 VIEWPOINT,BABBAGE ROAD
STEVENAGE, HERTS SG1 2EQ
Tel: 01438-745482 **Fax:** 01438-745483

Iiyama (UK) Ltd manufacture a range of award winning high performance colour monitors for the I T industry. Significant growth in the last two *financial periods have placed Iiyama* as the No.1 supplier of 21" monitors . Growth has been particularly strong in the corporate sector, suiting Windows, OS/2 and other GUI software.

Hardware:
15", 17",21" HIGH RESOLUTION COLOUR MONITORS

Geographical coverage:
Global

Applications:
ALL IMAGING, GRAPHICS, DOCUMENT SOFTWARE.

iiyama

12 Green Computer Rentals Plc

Harmer House, 7A Harmer Street
Gravesend, Kent DA12 2AP
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Hardware:
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Geographical coverage:
Europe

Applications:
Peak workloads, benchmarking, development

Computer Green RENTALS

13 IBIS Service Limited

2 Twyford Place, Lincolns Inn, Cressex
High Wycombe, Bucks HP12 3RE
Tel: 01494 448856 **Fax:** 01494 443333
Contact: John Ireland

SITEMAN® is a *Site Based Computer System* for the Construction, Engineering and Contracting Industry. In summary, **SITEMAN®** *manages* daily site costs, collects GRN's, plant returns and labour *timesheets, manages valuations* and tracks variations. In addition, **SITEMAN®** links through to most Estimating, Purchasing and Accounting Systems.

Hardware/Compatibility: All major systems and platforms (UNIX, Windows, etc.)
Geographical Coverage: UK, Mainland Europe, Australasia, South Africa, North America
Applications: *SITEMAN®, Site Based* Computer System
Cost
£200 per month per site

IBSL

14 OPEN 4 Systems Ltd

Arndale House, Otley Rd, Headingley
Leeds LS6 2UU
Tel: 0113 274 9990 **Fax:** 0113 274 9998

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Digital Imaging - *a range of Digital Cameras*, Scanners, Image Manipulation and Colour Printing solutions.

15 MR-Data Management Group Plc

47 Bastwick Street,
London EC1V 3PS
Tel: 0171 250 3377 **Fax:** 0171 250 1873

Company Description
MR-Data Management Group provides comprehensive facilities management and out-sourcing for data management requirements.

Services include: image and data capture, electronic printing, secure off-site data storage and market leading Memex software.

Hardware
All major systems

Geographical Coverage
UK, USA, Middle East

Applications
All image and computer data.

16-20 Motorola Information Systems Group

Church Road, Lowfield Heath, Crawley, West Sussex RH11 0PQ
Tel: 01293 404343 **Fax:** 01293 404362

NETWORK THE WORLD TO YOUR ADVANTAGE

Motorola's Information Systems Group is a world leader in computer networking. Its products are designed to provide organisations with *reliable, affordable network structures that support business* processes and objectives. Using innovative hardware and software combined with superior design skills, the company is able to provide custom networks which are optimised to meet the precise requirements of all types of organisations.

Providing all the elements of distributed data and voice networks, the Motorola ISG product portfolio comprises network management systems, including X.25 networking devices, LAN/WAN internetworking devices and routers, network access devices, multiplexers, leased line and dial modems, and ISDN terminal adapters. Services include network integration, network design, network installation and network maintenance.

Customers range from small and medium-sized firms to large multinational organisations with global enterprise networks. Motorola ISG helps them achieve the greatest value and productivity from both their computer systems and common carrier facilities by providing superior products and systems that effectively monitor and control corporate networks.

Motorola is one of the world's largest corporations, ranked number 32 in the Fortune 100 with sales of $27 billion. It is a leading manufacturer in some of the world's fastest-growing wireless communications markets; including cellular phones, two-way mobile and portable radios and paging devices. The company is also a world leader in electronic components.

MOTOROLA

21 Visual Numerics Int. Ltd.®

New Tithe Court, Datchet Road,
Slough SL3 7LL **Tel:** 01753 790600
Email: info@vniuk.co.uk http://www.vni.com

DATA VISUALISATION · PV-WAVE®, is a Rapid Application Development Tool for Decision Support Modelling, Analysis and Visualisation of Complex Data Sets PV-WAVE®, incorporates the world class IMSL®, Mathematics & Statistical Libraries.
IMSL MATHEMATICS, STATISTICAL AND CHARTING LIBRARIES - World Class Libraries for Developers writing in C, C++ & Fortran

Hardware/Compatibility: UNIX: SUN, HP, DEC ALPHA, SGI, IBM PC: NT & Wins95
Geographical Coverage: WORLDWIDE
Applications: DERIVATIVES, RISK MGT, FOREX
Cost: LIBRARIES FROM £ 500
DATA VISUALISATION ENTRY LEVEL £5,000

Visual Numerics

22 Minerva Industrial Systems plc

Bovis House, Lansdown Road,
Cheltenham, Glos GL50 2JA
Tel: 01242 242566 **Fax:** 01242 236107

Company Description

minerva INDUSTRIAL SYSTEMS plc

Hardware
UNIX, Open systems
GUI, OO, RDBMS, 4GL, 200+ platforms

Geographical Coverage
Worldwide multi-lingual

Applications
Integrated solutions for manufacturing industry MFG/PRO, Progress, Oracle.

23 FilePlus Europe Ltd

Coworth Park House
Ascot, Berks SL5 7SF
Tel: 01344 875050 **Fax:** 01344 873622
email: 100137,2021 @compuserve.com

Product Description
File Plus Professional 2 is State-of-the-art Document Management Software for the *Professional Office environment.* This Windows platform software indexes either scanned or DDE Linked files, stores images, searches for, retrieves and prints documents in the fastest, most efficient, secure and convenient way possible.

Hardware
Stand alone or Networked PCs running Windows *3.1 or higher, 486 DX2 66Mhz, 8Mb RAM.*

Cost
From £1,995 stand alone or from £2,995 for a 5 User Network system excl. VAT

f+

24 SSA

Frimley Business Park
Camberley, Surrey GU16 5SG
Tel: 01276 692111 **Fax:** 01276 692135

Company Description
With over 7,000 client implementations, BPCS Client/Server represents the world's largest installed base for a single enterprisewide product *line addressing integrated process and discrete* manufacturing, supply chain management, and global financial applications.

Hardware
As 400, RS 6000, HP9000, Digital Alpha.

Coverage
Over 40 offices worldwide.

SSA

25 Dun & Bradstreet Software

Holmers Farm Way
High Wycombe
Buckinghamshire HP12 4XU
Tel: 01494 424140 **Fax:** 01494 424240

Dun and Bradstreet Software is one of the world's Top Ten software vendors. We provide integrated workflow-enabled business applications for financial, human resource, procurement, information management and manufacturing/distribution activities. The fully distributed architecture allows companies to distribute data, workflow and business processes across the enterprise.

Hardware/Compatibility:
UNIX:HP/IBM/SUN/Digital/DG/IntelNT
Geographic Coverage:
Operations in 41 countries with installations in over 80.
Applications
Across industry and commerce.

Dun & Bradstreet Software

26 SAP (UK) Limited

No. 7 New Square, Bedfont Lakes
Feltham, Middlesex TW14 8MA
Marketing Hotline: 0181 818 2940
Fax: 0181 818 2990

Company Description

SAP® *Integrated Software. Worldwide.*™

Operating Systems
UNIX, Windows NT
Geographical Coverage
Worldwide; 7000 employees
Applications
Industry specific & generic applications covering the industrial, financial and public sectors.

27 Acclaim Entertainment Ltd.

Moreau House, 112-120 Brompton Road
London SW3 1JJ
Tel: 0171 344 5000 **Fax:** 0171 344 5040

London-based Acclaim Entertainment Ltd. is a subsidiary of NY-based Acclaim Entertainment Inc., a leading worldwide publisher of software and peripherals; coin-operated arcade games; and comic books under the Valiant, Armada and Windjammer imprints. Acclaim also operates blue screen and motion capture studios, and A.D.I., a global sales and distribution company for products from a variety of entertainment publishers.

Hardware Compatability
Acclaim publishes software and peripherals for Nintendo, Sega, Sony, personal computer and CD-ROM hardware systems.

Geographical Coverage
The London office covers European territories, the Middle East, South Africa, South East Asia, Australasia and Argentina.

Acclaim entertainment ltd.

28 Institute of Hydrology

Wallingford, OXON OX10 8BB
Tel: 01491 838800 **Fax:** 01491 692424
Web: http://www.nwl.ac.uk/ih

Developers and suppliers of spatial and time series *datasets of environmental variables (rainfall, river* flow, soil water, land use and ecological data) for inclusion in environmental management/risk assessment systems. *Information Systems* and simulation models with enhanced facilities to interpret *environmental* data. Underpinned by research into all aspects of water flow and quality in air, soil, plants, rivers and groundwater.

A component *Institute of the Natural Environmental Research Council.*

Hardware:
PCs and Networks

Institute of Hydrology

29 International Business Systems

1 Imperial Place, Elstree Way
Borehamwood, Herts WD6 1JN
Tel: 0181 2075655 **Fax:** 0181 2076770

Company Description
IBS is a wholly owned subsidiary of IBS AB, a *Swedish public company and one of the leading* software suppliers with over 3000 customers worldwide. The ASW Portfolio is a full range of application software with a GUI interface providing innovative solutions to today's business needs; including Pan European requirements and EuroVAT acting in a true Multi currency environment.

Hardware
AS/400 Client Server, Windows and OS/2 GUI support.

Coverage
65 Offices in over 30 countries worldwide.

Applications
Financials, Distribution, Inventory, Asset, Service, Production, Manufacturing, Project, Warehouse Management, EIS and FMCG.

IBS

30 Software 2000 UK

Crosby House, Meadowbank, Furlong Road,
Bourne End, Bucks SL8 5AJ
Tel: 01628 850850 **Fax:** 01628 850243

Company Description
Software 2000 offers a comprehensive suite of financial and human resources software designed exclusively for the IBM AS/400 server and related technologies, using client/server and object oriented technologies to provide easy-to-use icon and graphical screens and integration with popular windows spreadsheet and word processing packages and taking into account all the requirements of the multinational corporation. Software 2000 has over *1200 clients worldwide.*

Hardware
IBM AS/400, Server, Client/Server - OS/2, Windows, MAC.

Geographical Coverage
UK, Mainland Europe, USA, Australasia, Asia, Sth Africa.

Applications	Cost
Totally integrated financial management & human resources	Entry Level Price £25,000

31 IS Solutions Plc

Admiral Hawke House, Green Street,
Sunbury-on-Thames, Middx TW16 6RA
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Hardware Compatibility
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Geographical coverage
Worldwide

Applications
COMS, DIMS, Electronic Workforce, QSTam

IS SOLUTIONS

32-34 Digital Equipment Co Ltd

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For more information about how to gain access to the unrivalled problem-solving resources of Digital's worldwide Customer Service Centres please contact your local Digital Sales Office and ask for Multivendor Customer Services. For further details of the UK Sales Office in your area, call 01734 868711.

Geographical coverage:
Digital Equipment Corporation does business in more than 100 countries and offers a worldwide service infrastructure and service delivery capability.

digital

35 Sunrise Software Limited

Surrey House, 34 Eden Street
Kingston Upon Thames, Surrey KT1 1ER
Tel: 0181 546 7000 **Fax:** 0181 541 4262

Richmond - Helpdesk management software for Internal IT and External Customer Support Helpdesks
Windows interface, call logging and tracking, call logging histories and powerful knowledge base. Inventory management, service level agreement, third party *monitoring and alerts, full security, e-mail* integration, comprehensive administration capabilities.

Hardware/Compatibility
IBM PC, Windows, Windows 95, NT or compatible.

Geographical Coverage
UK: 800 Corporate Sites,
World-wide: 650 Corporate Sites

Cost
Price on application

Sunrise SOFTWARE

هكذا من الاصل

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36 WorkGroup Systems Limited

10th Floor, Maple House
Potters Bar, Hertfordshire EN6 5BS
Tel: 01707 664466 **Fax:** 01707 661250

Company Description
Quetzal is the world's leading PC-based help desk and asset management system designed for the Windows environment. Quetzal allows a variety of users to manage the entire customer support requirements of multi-site organisations. Quetzal caters for all aspects of help desk management, including call logging, inventory, problem tracking, reporting and management of service level agreements.
Hardware
Networked or standalone PC
Geographical Coverage
UK, Europe, Israel, North America, Australasia, South Africa.
Applications
MS/DOS, Windows and OS/2

WORKGROUP SYSTEMS

37 Wall Data (UK) Ltd

Wall Data House, 418 Bath Road, Longford, West Drayton, Middlesex UB7 0EA
Tel: 0181 476 5000 **Fax:** 0181 476 4151

Wall Data® provides industry-leading products and related services that simplify the use of and access to host information and applications throughout corporate and public enterprise. **RUMBA®** software presents these host applications and data to PC users in a familiar Windows environment, allowing them to interact in the same manner as with popular Windows applications, such as spreadsheets and word processors. Wall Data also provides graphical interface application tools to help improve workplace productivity.
Operating Systems:
Connectivity to IBM Mainframe, AS/400, HP, UNIX, VAX and Macintosh systems
Geographical Coverage:
67 Offices throughout the world.
Cost: From £167.00

38 Netsoft International Limited

Coach House Cloisters,
Hitchin Street, Baldock SG7 6AE
Tel: 01462 490094 Fax: 01462 490919

Company Description
Netsoft designs, develops and distributes a range of software products that provide easy, reliable and cost-effective client/server software solutions, linking PCs and PC networks to IBM mainframe and AS/400 computer systems. Netsoft are available for Windows, Windows for Workgroups, Windows NT, Windows 95 and IBM's OS/2 and Warp operating systems.
Geographical Coverage
International.
Applications
IBM mainframe and AS/400 connectivity.

39 EPG Insurance Systems

120 Leman Street, London E1 8EU
Tel: +44(0)171 488 4080 **Fax:** +44(0)171 488 1181
Email: sales@epg.co.uk

EPG specialises in providing insurance software systems and services to the international insurance industry. The company has achieved leadership position in the London Market with many brokers, insurance and reinsurance companies and Lloyds syndicates adopting EPG systems. In recent years, it has also expanded its international presence with a general insurance system. Within the group is a solutions division which specialises in bespoke PC applications for all market sectors. EPG's services encompass: Consultancy, disaster recovery, facilities management, bureau services and technical support.
Hardware/Compatibility:
IBM AS/400-ORACLE-SYBASE
Microsoft and Lotus Business partner
Geographical coverage:
Worldwide. Main offices: London-New York-Hong Kong.

EPG INSURANCE SYSTEMS

40 Essential Computing Limited

Burstead Court, Clevedon
Avon, BS21 7NB. **Tel:** (01275) 343199
Email: sales@essential.co.uk

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Hardware: Intel, SUN, Digital
Geographical Coverage: UK and Netherlands
Applications
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41-42 UNICOM Seminars Ltd.

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Watford, Hertfordshire, WD2 4PR
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44 First Information Group/ Flag Tower™

Knightsbridge House, 197 Knightsbridge,
London SW7 1RB
Tel: 0171 393 3000

Company Description
Bespoke multimedia business to business solutions. The Consumer Division, FlagTower™, publishes highly acclaimed interactive documentaries combining stunning graphics, text and animation with a unique audio visual narrative. Releases include The Space Race, World War I, World War II, War in the Pacific, Great Generals of the 20th Century and A History of Medicine.
Hardware/Compatibility
Multimedia IBM PC and compatibles
Geographical Coverage
World-wide
Cost
Single disk: £29.99
Double disk: £39.99

FlagTower

45 Thomas & Betts Ltd

Foster Ave.Woodside Park, Dunstable, LU5 5TA
Tel: 44 (0) 1582 677080
Fax: 44 (0) 1582 608816

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UK office: IMV Victron UK Ltd, f.a.o. Paul Fletcher
Tel +44 1455 618 666 **Fax** +44 1455 611 446 **Headquarters:** Sales5@Victron.nl

Could we be the first insurance company to present ourselves in the IT guide of the Financial Times? That is our - IMVs - business. Our customers are organisations of all sizes and nationalities who want to insure their companies against productivity & data loss stemming from power failures. Known to you would be UNITED NATIONS, INTEL, MOTOROLA, MIDLANDS ELECTRICITY BOARD, ABB, SIEMENS, AT&T, MERCURY COMMUNICATIONS, CENTRAL BANK OF CIS, BANK OF ENGLAND, COCA-COLA, CIBA-GEIGY, HEWLETT-PACKARD, IBM, DELL, REUTERS, SHELL, HEINEKEN, MERCEDES-BENZ, to name a few of them.

IMV is the result of the 1995 merger between Netherlands based Victron and Switzerland based InvertoMatic. Victron's expertise is high performance uninterruptible power supplies in the low and medium power range, and the integration of these systems in computer environments. InvertoMatic's expertise is big uninterrupted power systems for applications with very high cost of downtime.

We like to see our company as a tree: alive, and with a strong hidden base. The roots are most valuable, with customer support, service infrastructure, technology expertise, and logistical facilities as its major components. Suited to protect from single modems until the complete lighting of an airport landing-strip, the product range is the trunk. The leaves, numerous and constantly renewed, are constituted by the many software versions needed to integrate systems in (managed) networks, and the small adaptations needed to suit projects demands. Roots, trunk and leaves evolve at their own speed as a response to a changing environment. Some customers buy from us because we have an effective solution for handling power failures in environments with Client/Server architectures, where our PowerFlag software can avoid frustrating domino effects. Others do so because of the unmatched reliability of our products even in the most hostile environments. Others still, do so because of the excellent value for money we offer and the wide spectrum of solutions available. We feel privileged to have our customers. We work hard to allow each to be satisfied with high uptime performance and to be comfortable without the worry of unneeded systems crashes.

Safe and managed power is our business. If you have an interest in uninterrupted power as well, please contact us in the UK. Please E-mail us for inquiries on the continent.

Compatibility
SNMP version 1&2; WINDOWS NT, 95, 3.11, 3.1; UNIX major vendors; NOVELL 2.x, 3.x, 4.x; AS/400; Mac System; OS/2.

Geographical coverage
Subsidiaries in UK, France, Netherlands, Switzerland, Italy, Spain, Germany, Thailand, Singapore, Hong-Kong, Greece; Sales, service and support in all 220-240 V countries including developing countries.

Applications
Distributed computing, Computer room, Telecom (billing and transport), Industry, Facility Management.

IMV INVERTOMATIC VICTRON ENERGY SYSTEMS

54 Liebert

Elgin Drive, Swindon
Wiltshire SN2 6DX, UK
Tel: 01793 553355 **Fax:** 01793 553424

UPStation GX - the world's most advanced network uninterruptible power supply (UPS)!
Hotline: 01793 553395. Features: true on-line UPS; one model rack/tower; SNMP models available; add-on battery packs; international cooling; emergency bypass; metal case eliminates EMI.

A world leader in computer room protection, Liebert Corp has been internationally recognised for UPS products - protecting computer rooms, networks, telecommunication sites - anywhere where highly reliable power, environmental and site protection is required.
Hardware/Compatibility: Windows 3.x; Windows '95; UNIX; Novell Netware; Windows NT
Geographical Coverage: Worldwide
Applications: Network Power Protection/Security (LAN/WAN)

Liebert Keeping Business in Business

32 SELECT Software Tools

Westmoreland House, 80-86 Bath Road
Cheltenham, Glos. GL53 7JT
Tel: 01242 229 700 **Fax:** 01242 229 701

SELECT Software Tools offers model-driven tools, methods, and professional services to provide a smooth, rapid approach to software development for organisations doing large-scale distributed systems development. SELECT Enterprise, is an object-oriented modelling workbench with n-tier architecture and process support, which generates framework applications in either Microsoft or Forté environments.
Hardware/Compatibility: PC running Windows 3.1, 95 or NT 15Mb hard disk space
Geographical Coverage: Direct sales offices in the UK, USA and Germany with distributors world-wide
Applications: Client/server development

SELECT

56 CSI (Computing Services for Industry)

Canal Place
Leeds LS12 2DU
Tel: 0345 010105 **Fax:** 0113 243 6950

CSI Outsourcing specialise in providing high quality, fully managed systems for companies using IBM midrange equipment for key business applications. Service levels to systems users are guaranteed. Services can be based on customer's site or at a CSI location and provided 24 hrs 365 days a year.

Hardware/Compatibility
AS/400 Ops, Applications, Tech support, LANs, WANs, Desk-top

Geographical Coverage
Service from Datacentre in Nottingham and eight other UK locations

CSI

57 Computer Algebra Centre

The Research Park, Vincent Drive
Edgbaston, Birmingham B15 2SQ
Tel: 0121 471 4199 Fax: 0121 471 5169
Email: sales@clecom.co.uk

The Computer Algebra Centre distributes a range of specialist software packages in the areas of statistics and mathematics and, together with its sister company CLECOM Software, provides scientific and technical software services particularly in the areas of speech recognition and multimedia learning systems.
They are the UK distributors of SYSTAT which is already used by thousands of statisticians, engineers, scientists and researchers all over the world. Written by professional statisticians, SYSTAT gives you accurate results that you can trust and arguably no other statistics package can produce such a wide range of scientific and technical graphs.
Hardware/Compatibility: SYSTAT is available in versions for Windows, DOS and Macintosh

58 Software Technologies Corp.

117, Nashgrove Lane
Wokingham, Berks RG40 4HG
Tel: (44) 01734 773180 **Fax:** (44) 01734 773293

STC announces DataGate 3.1, a fully graphical interface to the popular EDI interface application. In both simple and complex environments, on all major UNIX or NT platforms, DataGate brings cost-effective, high performance integration to disparate systems and with CyberGate, secure sharing of data via the Internet.
Hardware/compatibility
All major UNIX or NT platforms, including HP, Digital, Sun and IBM.
Geographical Coverage: Worldwide
Applications: Disparate computer systems integration
Cost
P.O.A. (dependent on number of interfaces)

STC

59 Heroix Corporation Ltd

Yeomans Court, Ware Road,
Hertford SG13 7HJ, England
Tel: +44 (0) 1992 500006 Fax: 01992 500065

Company Description
Can you reduce the cost of managing your systems and provide users with better service and increased productivity levels? RoboMon can. This powerful software solution detects and automatically formulates the correct solutions to system problems. Heroix Corporation is a well established company with a proven history in system management services and solutions for VMS, UNIX-DEC, HP, IBM, SUN & Windows NT.

Geographical Coverage
Worldwide
Users
Include 16 of the Times Top 30 Companies.

HEROIX

60 Peritas Ltd

Beaumont, Old Windsor, Windsor,
Berkshire SL4 2UP
Tel: 01753 868181 **Fax:** 01753 841775

Company Description
One of Europe's largest consultancy and training organisations, Peritas provides: information systems training; multimedia consultancy/training; human development consultancy: change management; skills training; training venues; training facilities management.

Geographical Coverage
World-wide

Cost
Please ring 01753 851483 for further information

PERITAS

61 Plan Computing Services Ltd

27 Sandhurst Road, Crowthorne
Berks RG45 7HR
Tel/Fax: 01344 771566

We specialise in...
Troubleshooting & Diagnostic Software and Hardware....
.....Try us!!!

Plan Computing Services offer hardware and software which will investigate dead or faulty PCs, recover damaged files or directories, find IRQ conflicts if you are installing new PC cards, cool overheating PCs, tune Windows, install difficult hard disks, re-write BIOS and check out networks.

Geographical Coverage
United Kingdom and Europe

Plan

62 IBM United Kingdom Limited

PO Box 31, Birmingham Rd.Warwick CV34 5JL
Tel: 01926 464343 **Fax:** 01926 407345
E-mail: globalnetwork@uk.ibm.com

IMB's Global Network is a leading designer and provider of network services and solutions. We offer a complete range of IBM-recommended desktop, group and multi-point videoconferencing systems, together with comprehensive installation, training, helpdesk and maintenance services, internationally. In addition a full range of multi-point, suite hire and consultancy services are available.
Hardware compatibility
H320 and T120 standard systems
Geographical Coverage: Worldwide
Applications
Finance, Retail, Manufacturing etc.
Cost
Dependent on solution

IBM

63 VTEL Europe Limited

Apex Plaza
Reading RG1 1AX
Tel: 01734 560 915 **Fax:** 01734 560 545

VTEL provides industry leading videoconferencing and multimedia business communication solutions. VTEL's Enterprise systems help organisations to communicate more effectively, make faster decisions, and be more competitive. VTEL is the first videoconferencing supplier to offer Windows95, PC-based systems for the desktop and the meeting room.

Geographical Coverage
International

Applications
Manufacturing, finance, general business, government, healthcare, education and training.

VTEL

64 Vocalis Ltd

Chaston House, Mill Court, Station Rd.
Gt. Shelford, Cambridge CB2 5LD
Tel: 01223 846177 **Fax:** 01223 846178

Vocalis is a world leader in speech technology and call processing applications, delivering speech-controlled systems that increase business efficiency and make communication easier. Products include a virtual telephone operator, a voice dialling system and bespoke applications for call centre transaction processing.
Hardware Compatibility
Industry standard ISA hardware
Geographical Coverage
Europe, USA, Middle East
Applications
Telebanking, help desks, travel information, retail enquiries/ordering

VOCALIS

65 Transoft Ltd

5J Langley Business Centre, Station Road.
Langley, Slough, Berks SL3 8DS
Tel: 01753 778000 **Fax:** 01753 773050

Transoft develops and markets Open software tools that enables users to evolve their legacy systems and take maximum advantage of modern client/server and RDBMS technologies. Its unique U/SQL Client-Server product provides enterprise-wide Windows access to both relational and legacy data, including a variety of COBOLs and C-ISAM
Hardware compatibility: Windows 3.x, Windows 95, Windows NT and all major UNIX platforms
Geographical coverage: World-wide, direct from Transoft or via a network of approved Resellers
Applications: Relevant to any application across a wide range of databases and file types
Cost
On application TRANSOFT

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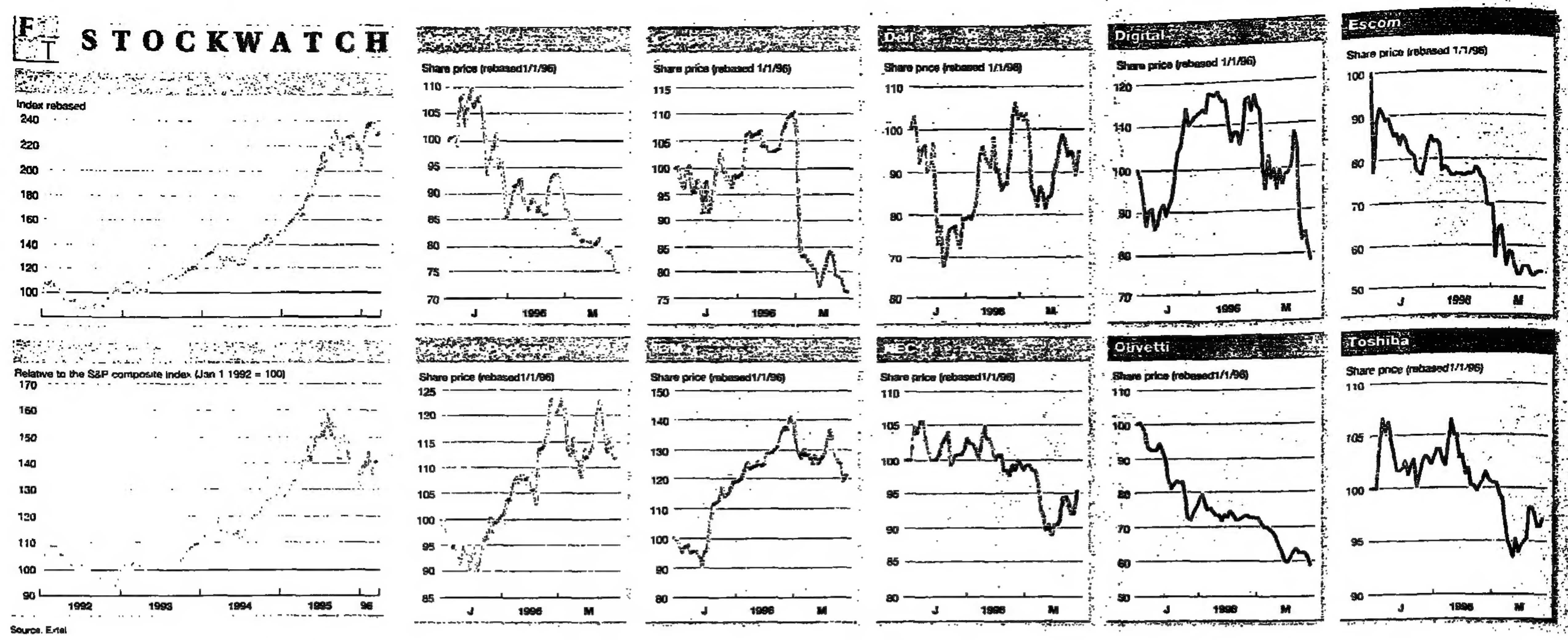

■ Stockwatch comment

PC price wars add to share volatility

Shares in Dell, Digital Equipment, IBM, Hewlett Packard and Compaq Computer all moved higher despite a swath of price-cut announcements

Personal computer manufacturers's share prices are notoriously volatile and the last few months have proved no exception. The outbreak of a new desktop price war, Apple Computer's huge losses and boardroom changes have all added to investors' excitement.

Meanwhile, disappointing sales for some companies in the fourth quarter coupled signs of a marked slowdown in the US PC market and sluggish growth in some other markets, such as Germany, have taken their toll.

Among the leading PC manufacturers, Apple's share price appeared to have bottomed out last month as the group's new chief executive, Mr Gilbert Amelio, began to get to grips with the group's problems.

Signalling this, the shares actually rose slightly last week after Apple warned that its net loss for the three months to March 29 would be about $700m after "sizeable charges" to reduce bloated stocks.

Meanwhile Amelio, the former National Semiconductor chief executive who took over at Apple eight weeks ago, has given himself 100 days to assess the company's position and develop a new strategy for the industry pioneer – a strategy which is likely to be built around more focused markets and a sharper business model.

In contrast, shares in Dell, Digital Equipment, IBM, Hewlett Packard and Compaq Computer all moved higher despite a swath of price-cut announcements as market leaders reacted to lower than expected sales and forecasts that the PC market will not pick up until the second half.

Shares in Hewlett Packard, in particular, have been buoyant over the past few months reflecting a number of factors including the company's successful push into the desktop PC market where it is one of the fastest market share gainers.

Escom losses

In Europe, Escom confirmed its problems with a DM125m full year net loss and then announced last week that Mr *Manfred Schmitt*, who holds 23 per cent of the equity, was stepping down as chief executive to make way for a former Escom executive – Mr Helmut Jost, who runs IBM's German PC business.

Mr Jost was responsible for Escom's sales and marketing until November when he left to join IBM. Escom's share price has fallen sharply over the past three months as details of its problems emerged.

As part of the efforts to bolster its position, Escom's capital was reorganised earlier last month to provide the group with Dm 100m in fresh funds. As part of that deal, Siemens Nixdorf has increased its stake by 2.5 per cent to 12.5 per cent and announced at Germany's CeBit trade fair that it has also acquired a 10 per cent stake in Vobis, another German PC maker.

Siemens said the move was part of its strategy to grow its PC operations and cut costs through joint component purchasing.

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